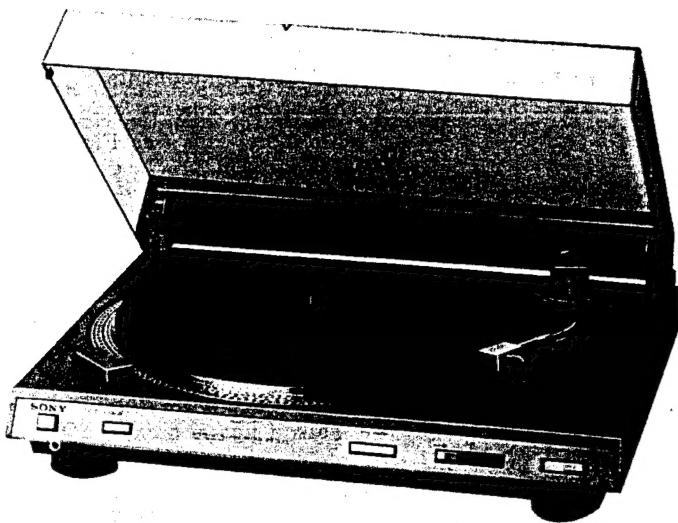


PS-333

US Model
AEP Model
E Model
SCN Model
Canadian Model
UK Model



STEREO TURN TABLE SYSTEM

SPECIFICATIONS

GENERAL

Power Requirements:	120V ac, 60 Hz (US, Canadian model) 220V ac, 50/60 Hz (or 240V ac adjustable by authorized Sony personnel) (AEP, SCN model) 240V ac, 50/60 Hz (or 220V ac adjustable by authorized Sony personnel) (UK model) 110, 120, 220, 240V ac adjustable, 50/60 Hz (E model)
Power Consumption:	6W
Dimensions:	Approx. 430 (w) x 125 (h) x 365 (d) mm 17 (w) x 4 7/8 (h) x 14 3/8 (d) inches including projecting parts and controls
Weight:	Approx. 5.5 kg, 12 lb 2 oz (net) Approx. 6.7 kg, 14 lb 12 oz (in shipping carton)

TURNTABLE

Platter:	32.4 cm (12 3/4 inches), aluminum-alloy diecast
Motor:	Linear BSL (brushless and slotless) motor
Drive System:	Direct drive
Speed:	33 1/3 rpm, 45 rpm
Starting Characteristics:	Comes to nominal speed within a half revolution (33 1/3 rpm)
Wow and Flutter:	±0.045% (DIN) (AEP, UK, E, SCN model) 0.03% (WRMS)
Signal-to-Noise Ratio:	70 dB (DIN-B)
Automatic System:	Lead-in, return, reject

— Continued on page 2 —

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY
SERVICE MANUAL

TONEARM

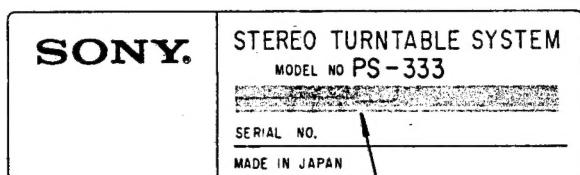
Type: Statically balanced, universal
Pivot-to-Stylus Length: 216.5 mm (8 1/2 inches)
Overall Arm Length: 290 mm (11 1/2 inches)
Overhang: .16.5 mm (21/32 inches)
Tracking Error: +3°, -1°
Tracking Force Adjustment Range: 0-3 g
Total of Cartridge and Headshell Weight Range: 11.5-19 g

CARTRIDGE VL-37G

Type: Moving magnet
Frequency Range: 10-20,000 Hz
Channel Separation: More than 23 dB (1 kHz)
Output Voltage: 3 mV (1 kHz, 3.54 cm/s, 45°)
Suitable Load Impedance: 50 kΩ
Tracking Force: 1.5-2.5 g (2 g)
(recommended value)
Replacement Stylus: Sony ND-137G (conical 0.6 mil diamond)
Weight: 13 g
including the headshell

MODEL IDENTIFICATION

— Specification Label —



US, Canadian model	AC 120 V	60 Hz	6W
AEP, SCN model	AC 220 V	50 Hz	6W
E model	AC 110, 120, 220, 240 V	50 Hz	6W
UK model	AC 240 V	50 Hz	6W

MELF (Metal Electrodes Face-Bonding) Components (AEP, E Model)

Warning

If MELF components are forcibly removed from the printed circuit board with pincers or pliers, the circuit board pattern is likely to peel away. Always remove MELF components according to the procedure described on the next page. Replace MELF components with the lead type components.

MELF components are soldered directly to the surface of the printed circuit board.

MELF resistors and capacitors have the same dimensions and are distinguished by their background colors: light brown for resistors, and pink or light green for capacitors.

The MELF resistor color coding is the same as for conventional resistors, and MELF capacitor color coding is the same as for tube-type ceramic capacitors. Note, however, that all MELF resistors are rated at $\frac{1}{4}$ W and $\pm 5\%$.

Components larger than resistors and without a color code are cross conductors, which are used instead of jumper wires.

1. Structure

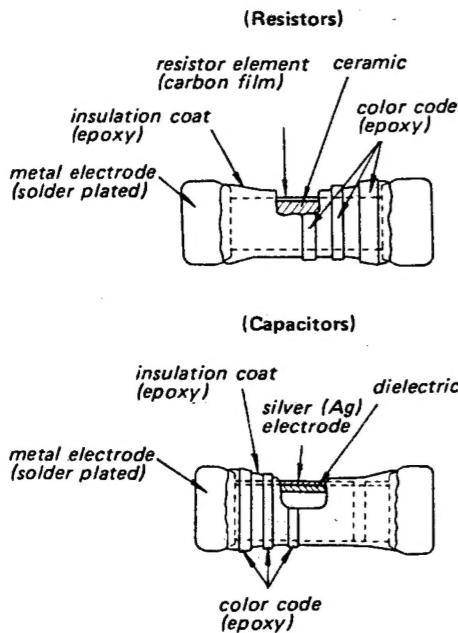
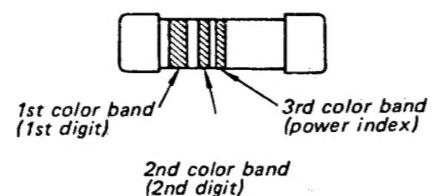
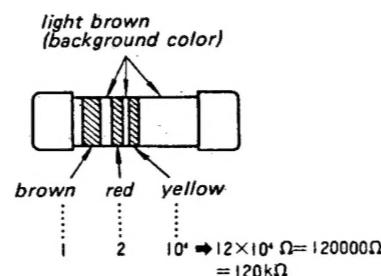


Fig. 1

2. Color Code Reading



(Example of Resistor)



(Example of Capacitor)

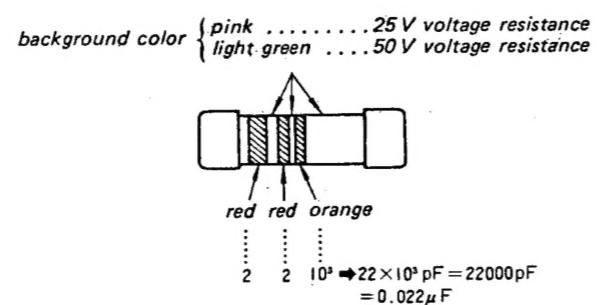


Fig. 2

3. How to Remove MELF Components and Mount Replacements

Use a soldering iron of at least 40W with an iron tip 4 mm in diameter and file the tip down to the angle shown in the diagram.

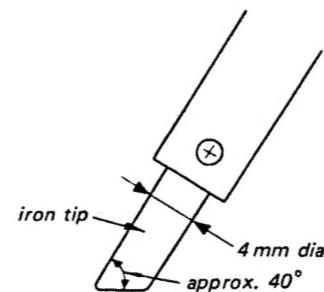


Fig. 3

1. Bring the flat surface of the soldering iron in equal contact with both soldered ends of the component.
2. The solder should melt in about 4 seconds. (The solder will melt more readily if a small amount of solder is attached to the iron tip and the iron tip is placed against the component.)
3. Once the solder has melted, tap the component aside with the tip of the soldering iron, and remove it from the board.

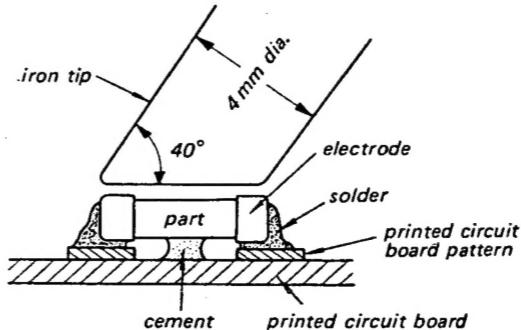


Fig. 4

4. Use lead type resistors or capacitors to replace the MELF components. These replacements may be mounted either with short leads (see Fig. 5), or by covering a lead with tubing (see Fig. 6).

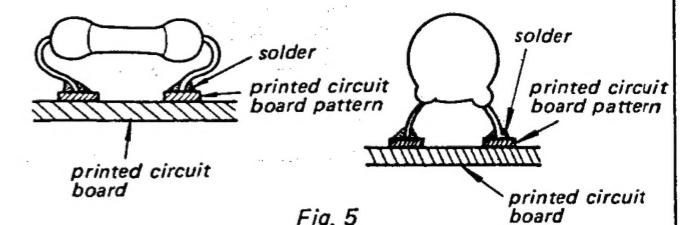


Fig. 5

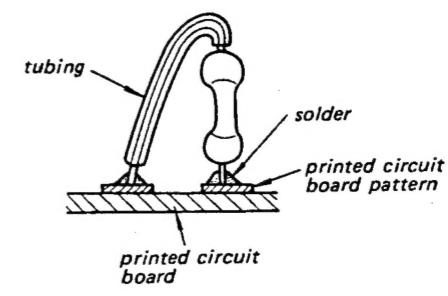
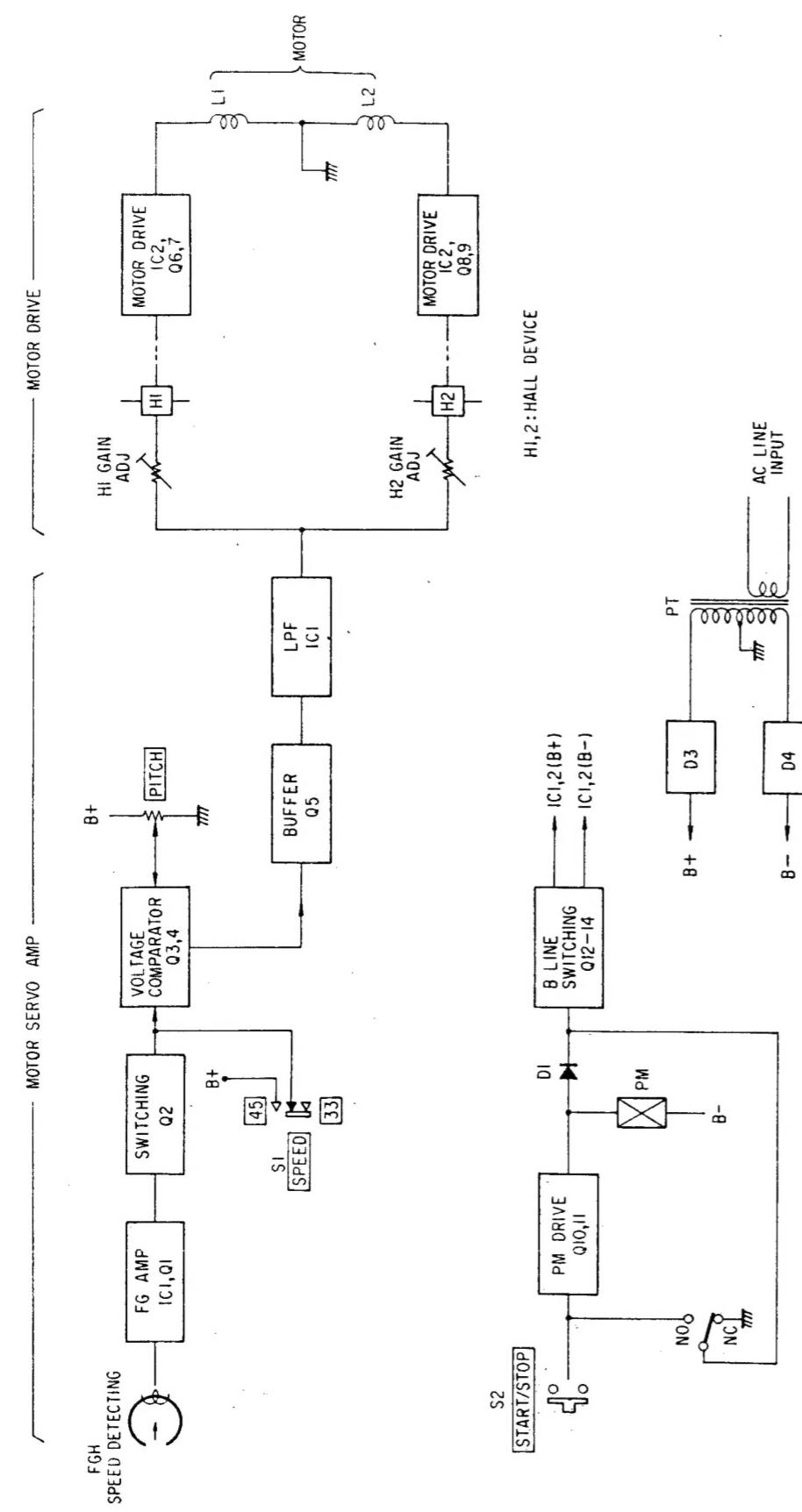


Fig. 6

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM



1-1-1000 1-1-2000

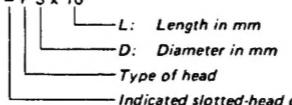
1/4 WATT CARBON RESISTORS ^A

Note: Circled letter ^A is applicable to European models only.

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00

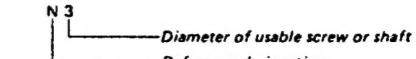
HARDWARE NOMENCLATURE

Screw:



Indicated slotted-head only.
Unless otherwise indicated, it means cross-recessed head (Phillips type).

Nut, Washer, Retaining ring:



Diameter of usable screw or shaft
Reference designation

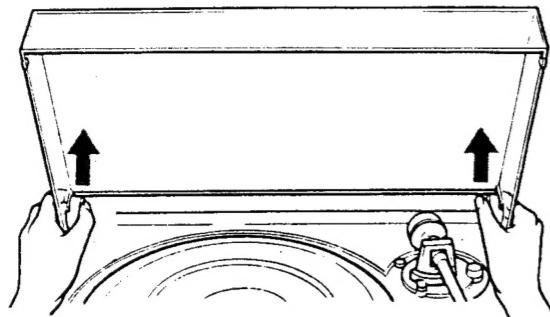
Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

SECTION 2 DISASSEMBLY

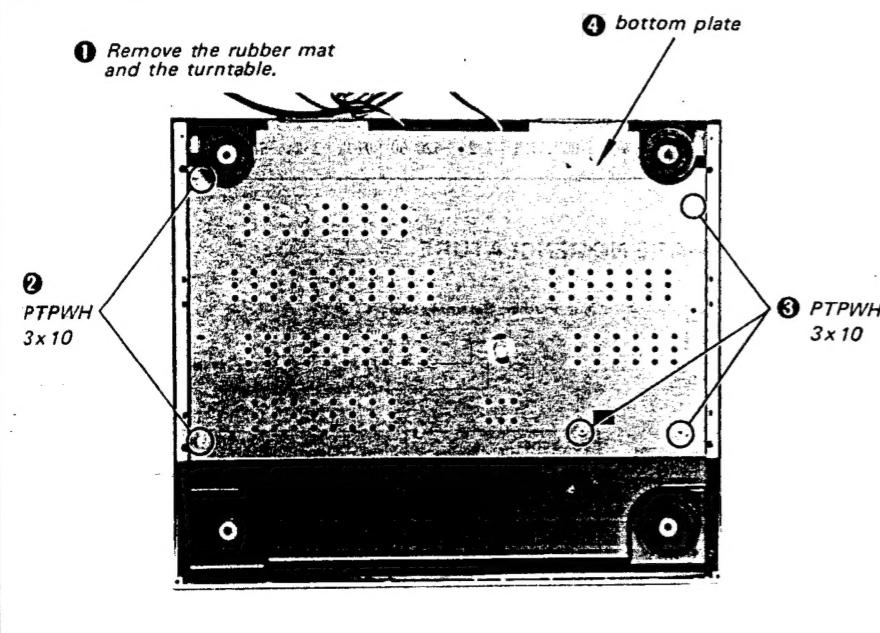
Note: Follow the disassembly procedure in the numerical order given.

DUST COVER

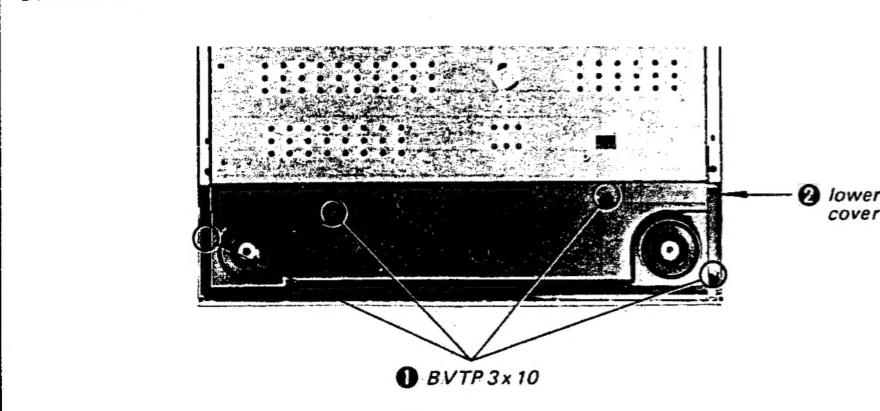
To remove the dust cover, open the dust cover fully and slide it as illustrated while holding it with both hands.



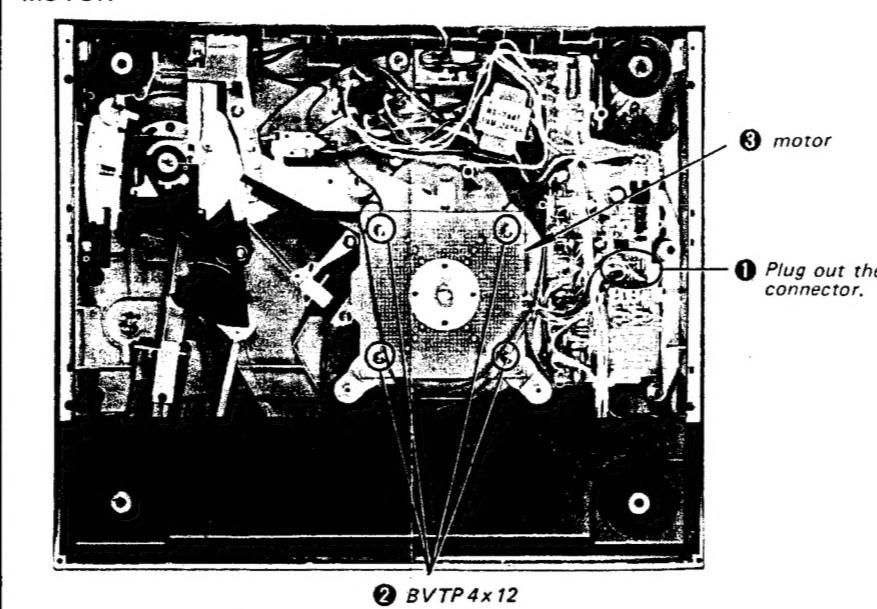
BOTTOM PLATE



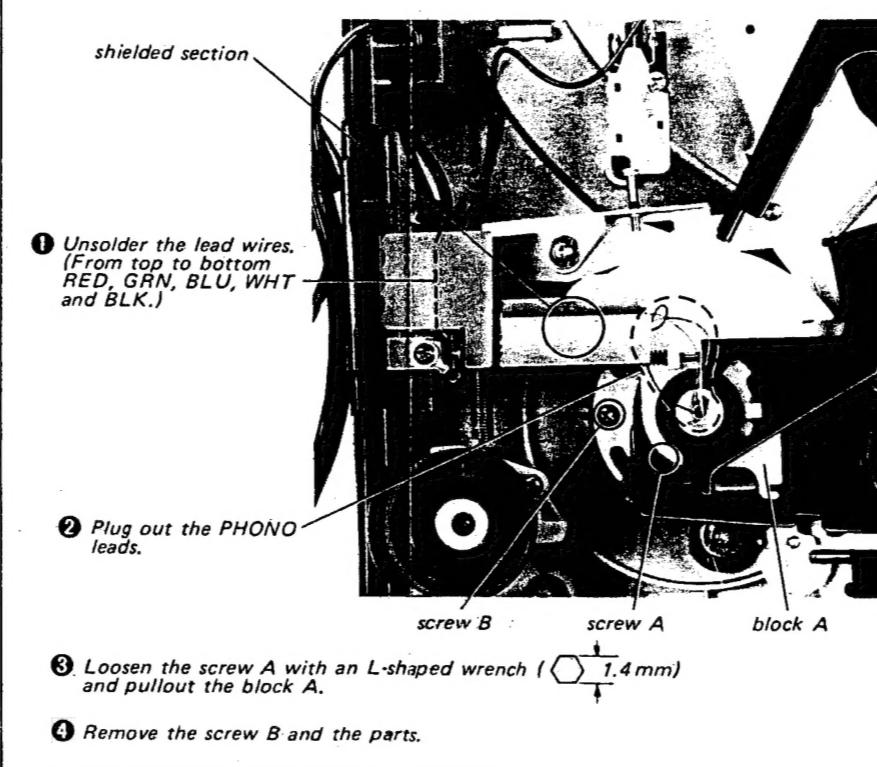
LOWER COVER



MOTOR

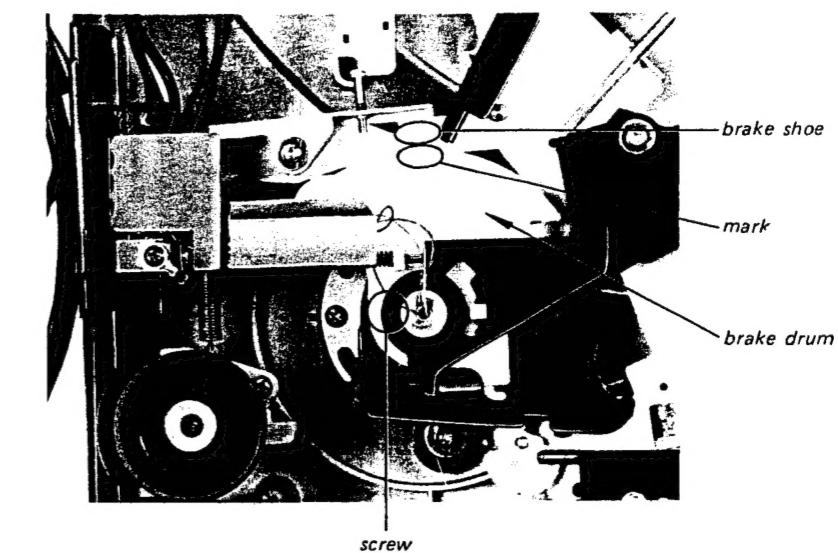


TONEARM BLOCK



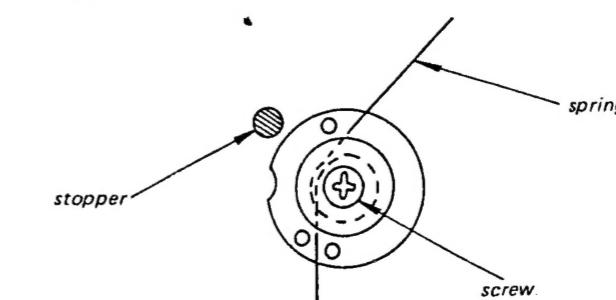
BRAKE DRUM INSTALLATION

- 1 Secure the tonearm to the arm rest.
- 2 Loosen the screw and adjust the brake drum mark to the brake shoe as shown.
- 3 Tighten the screw.

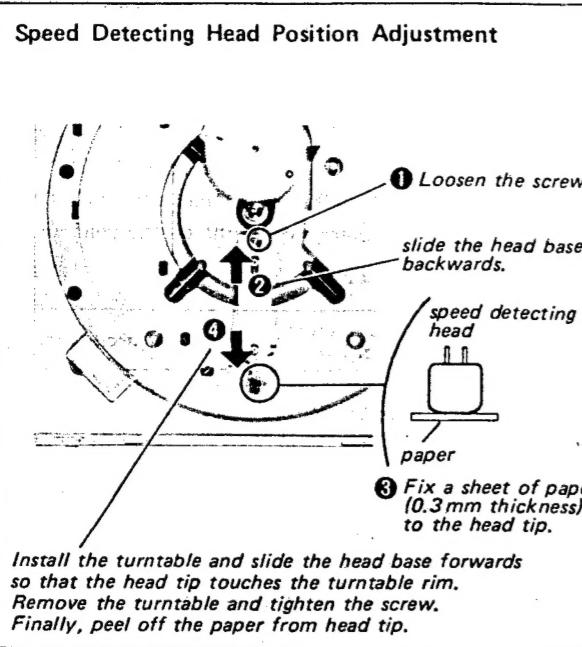


ANTI-SKATING COMPENSATOR KNOB INSTALLATION

- 1 Set the anti-skating compensator knob to mark "0".
- 2 Install the spring as illustrated.
- 3 Tighten the screw.

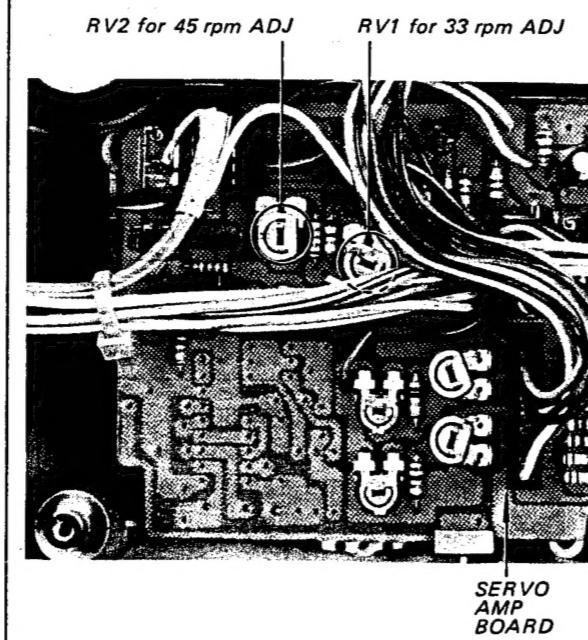
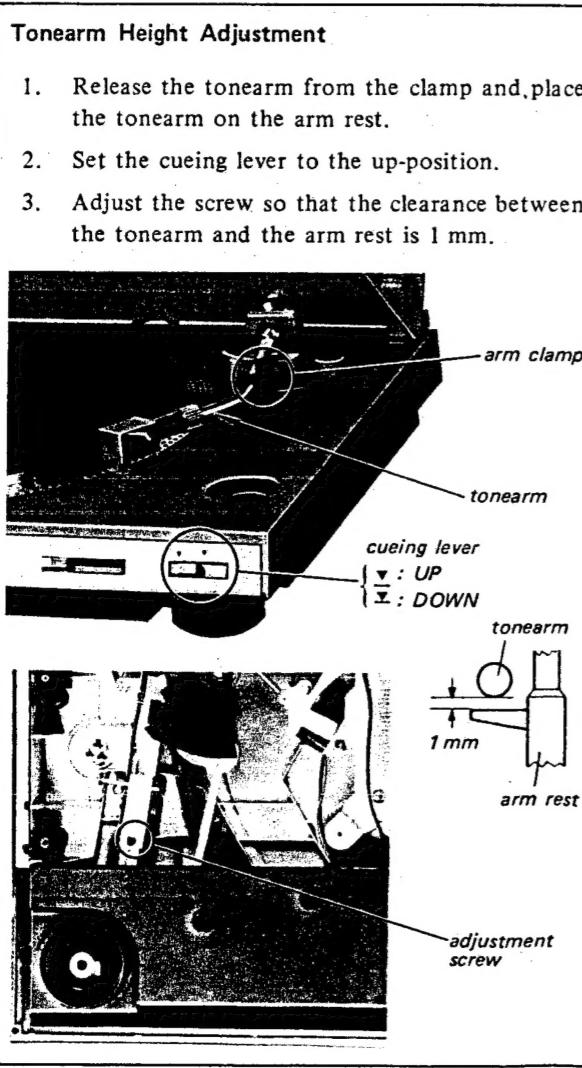
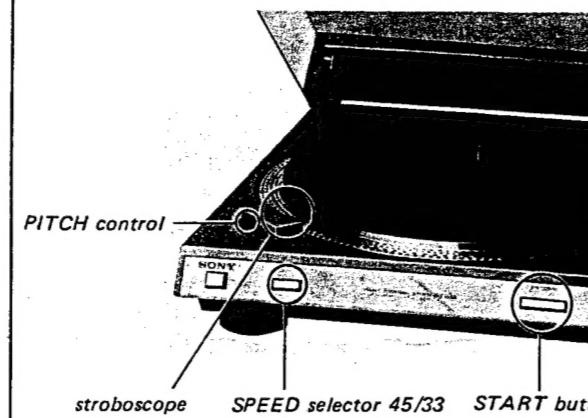


3-2. ELECTRICAL ADJUSTMENT



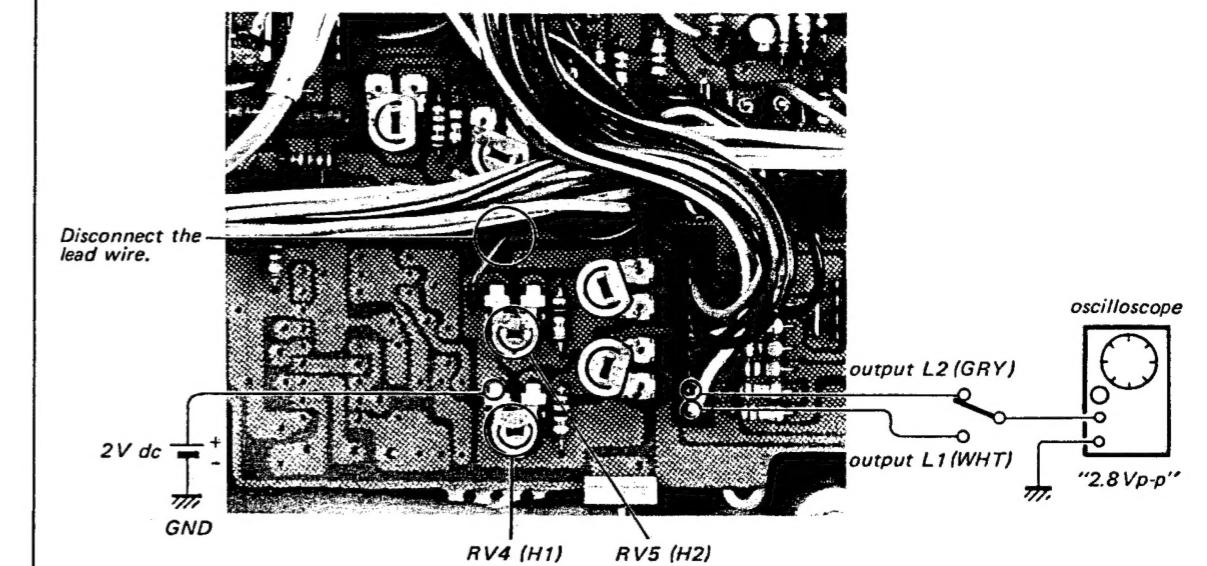
Speed Adjustment

1. Set the PITCH control at center position and push the START button.
2. Set the SPEED selector to the 33 rpm position and adjust RV1 so that the stroboscope pattern seems to be stopped.
3. Set the SPEED selector to the 33 rpm position and adjust RV2 so that the stroboscope pattern seems to be stopped.



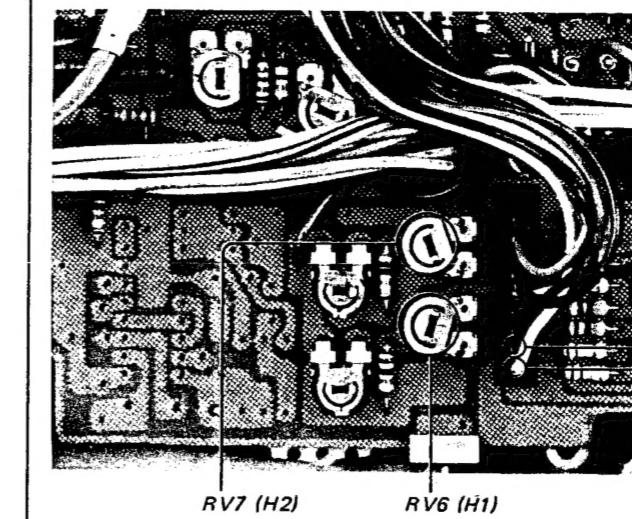
Hall Device Gain Adjustment

1. Disconnect the lead wire and connect the regulated power supply as shown below.
2. Connect an oscilloscope to L1 and adjust RV4 to obtain 2.8 V peak to peak.
3. Likewise, adjust RV5 for L2.



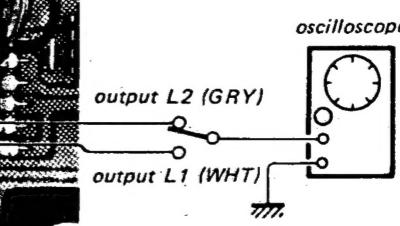
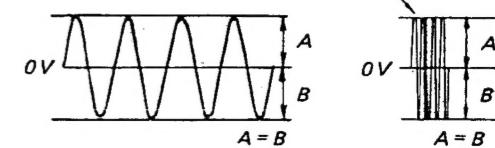
Motor Amp Offset Adjustment

1. Connect an oscilloscope to L1 and adjust RV6 to observe the waveform on an oscilloscope as shown below.
2. Connect an oscilloscope to L2 and adjust RV7 to observe the waveform on an oscilloscope as shown below.



Waveform on Oscilloscope:

Note: Set the sweep time to longer for easy checking the waveform.



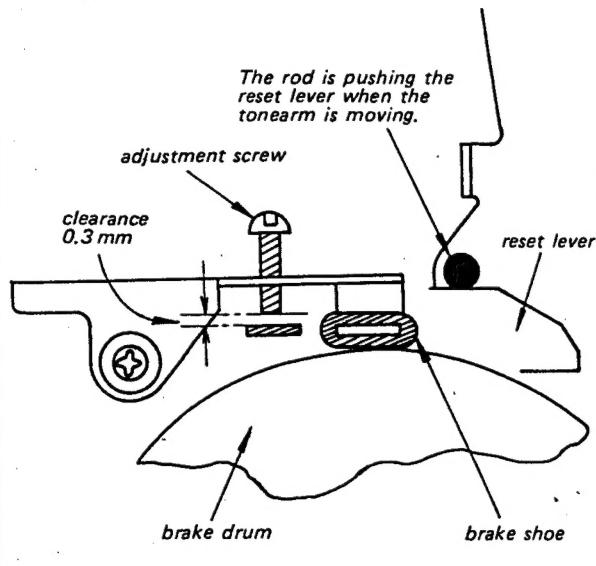
SECTION 3

ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

Brake Adjustment

1. Turn the drive gear counterclockwise, and the tonearm moves inwards and the brake shoe touches the brake drum.
2. Adjust the screw so that the clearance is 0.3 mm as shown.

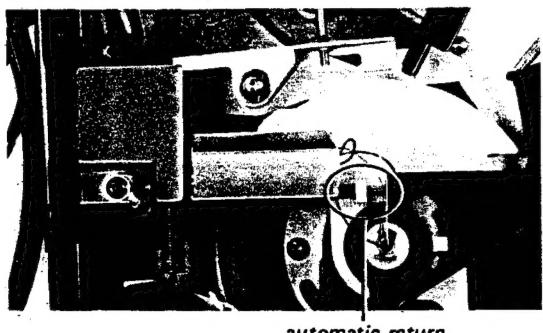


Auto Return Position Adjustment

1. Turn the turntable by hand, and the tonearm moves inwards.
2. Adjust the screw so that the tonearm returns at the position where the distance between the stylus and the spindle is 61–64 mm.

Return position	Adjustment screw
early	clockwise
later	counterclockwise

Play the test record (YFSC-16) and confirm that the tonearm returns at count of 4–11.



Tonearm Drop-point Adjustment

1. Remove the rubber cap of the tonearm drop-point adjustment hole.
2. Set the record size selector lever to the 30 (12") position and make sure that the stylus gets down on the specified point of the test record. test record: YFSC-16

Record size selector lever position	Count of drop-point
30 (12")	4 to 16
25 (10")	6 to 24
17 (7")	7 to 25

3. If necessary, insert the screwdriver into the hole and adjust the drop-point by turning the adjustment screw.

To change the drop-point inward:

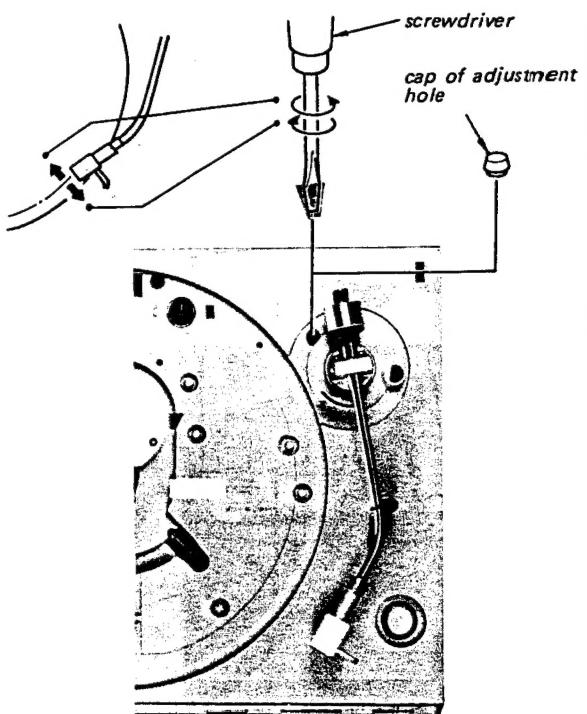
Turn the adjustment screw slightly counterclockwise.

To change the drop-point outward:

Turn the adjustment screw slightly clockwise.

4. Once it is properly adjusted with a 30 cm (12") record, the drop-point will be correct for 17 cm (7") and 25 cm (10") records as well.

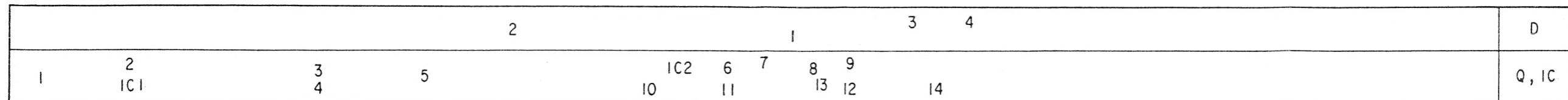
Note: The tonearm drop-point is changed about 12 mm ($\frac{1}{2}$ ") by one turn of the adjustment screw.



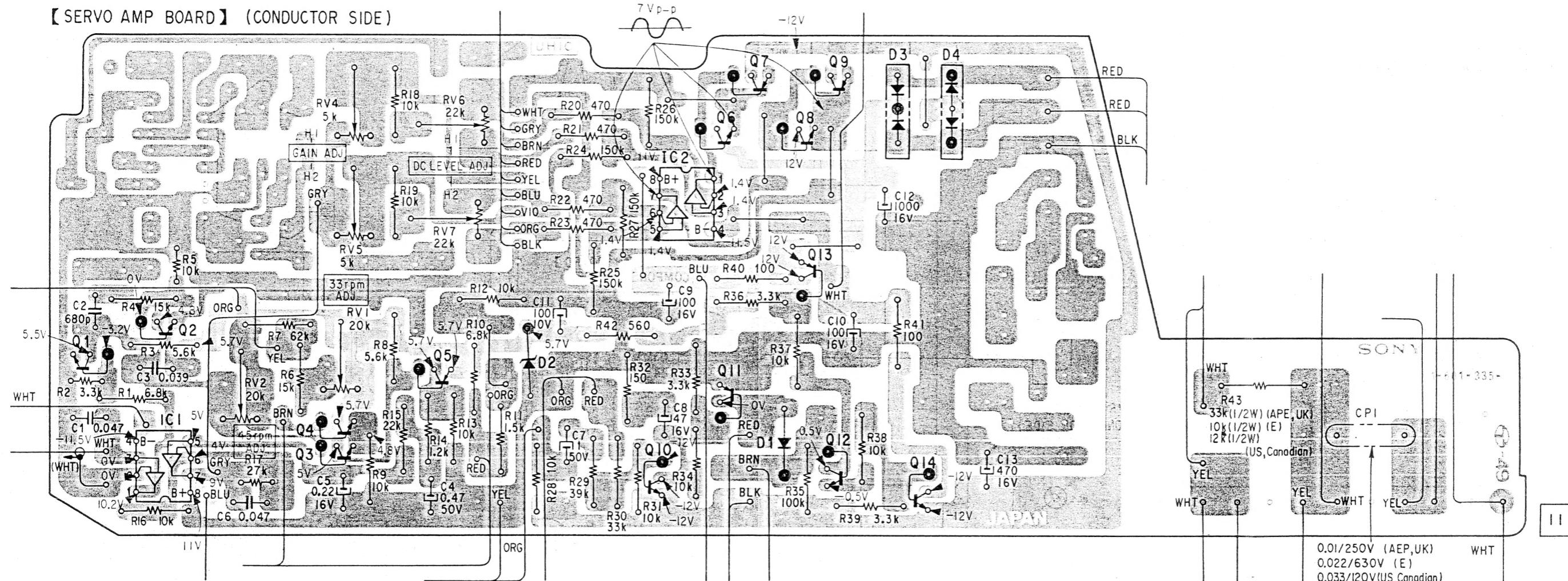
4-1. MOUNTING DIAGRAM

US, Canadian, UK, SCN Mod

— Conductor Side —

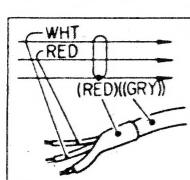


【 SERVO AMP BOARD 】 (CONDUCTOR SIDE)



Note

-  : B+ pattern
-  : B- pattern
- Color code of sleeves over the end of the jacket



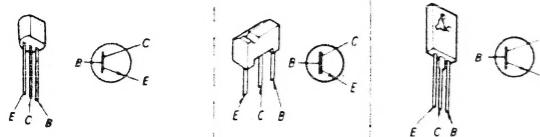
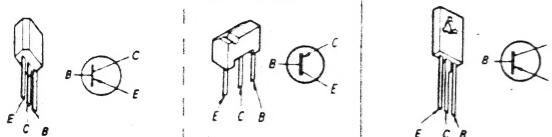
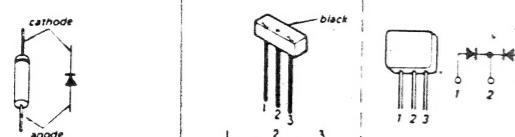
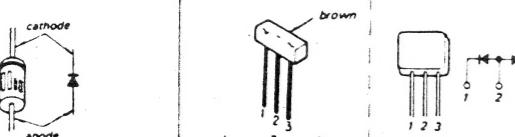
4-2. MOUNTING DIAGRAM

US, Canadian, UK, SCN Model

- Component Side -

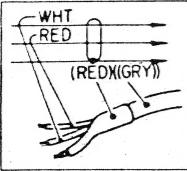
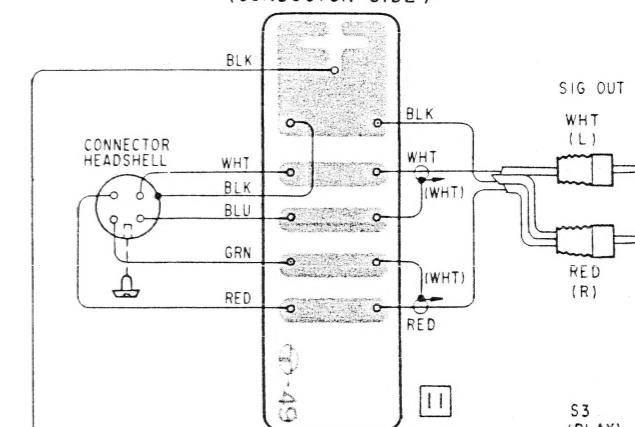
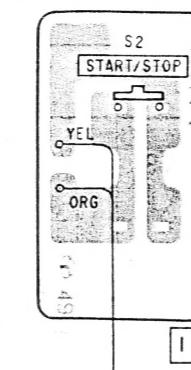
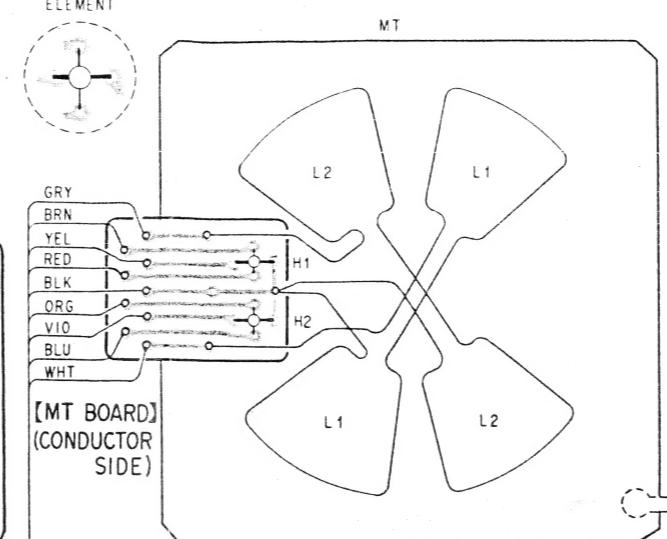
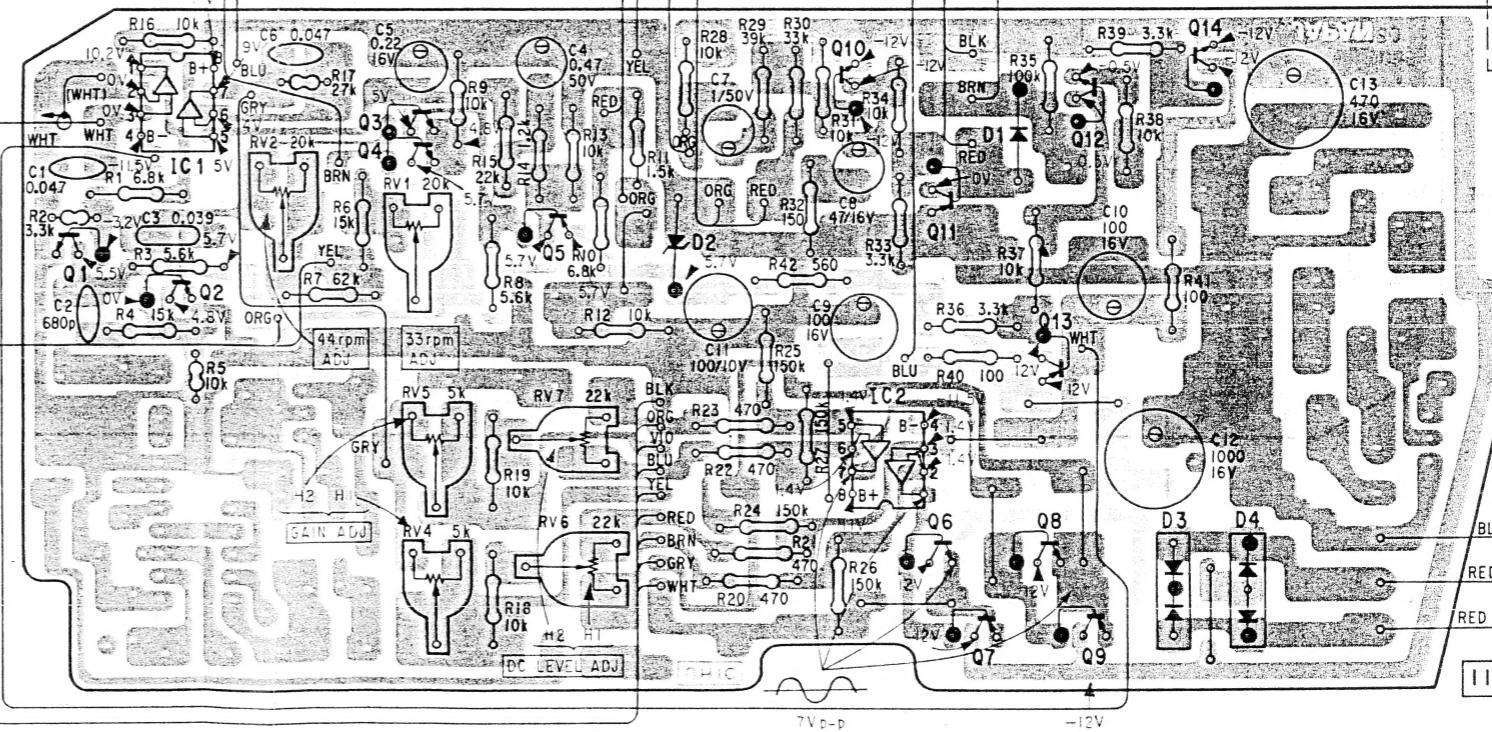
Replacement Semiconductors

For replacement, use semiconductors except in ().

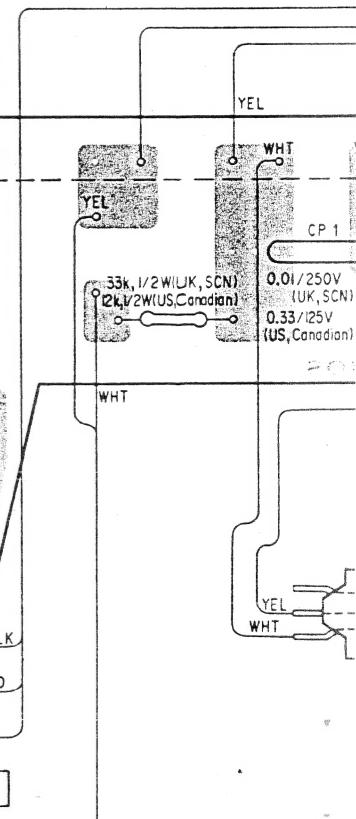
Q1-4: 2SC1364 (2SD637)
Q10, 12, 14: 2SC1364 (2SD637)Q5, 13: 2SA1027R (2SB642)
Q11: 2SA1027R (2SB642)D1: 1S1555
D3: S3VC40 (MI-151)D2: EQB01-06
D4: S3VC40R (MI-151R)IC1, 2: μPC4558C
H1, 2: F-1409

Note:

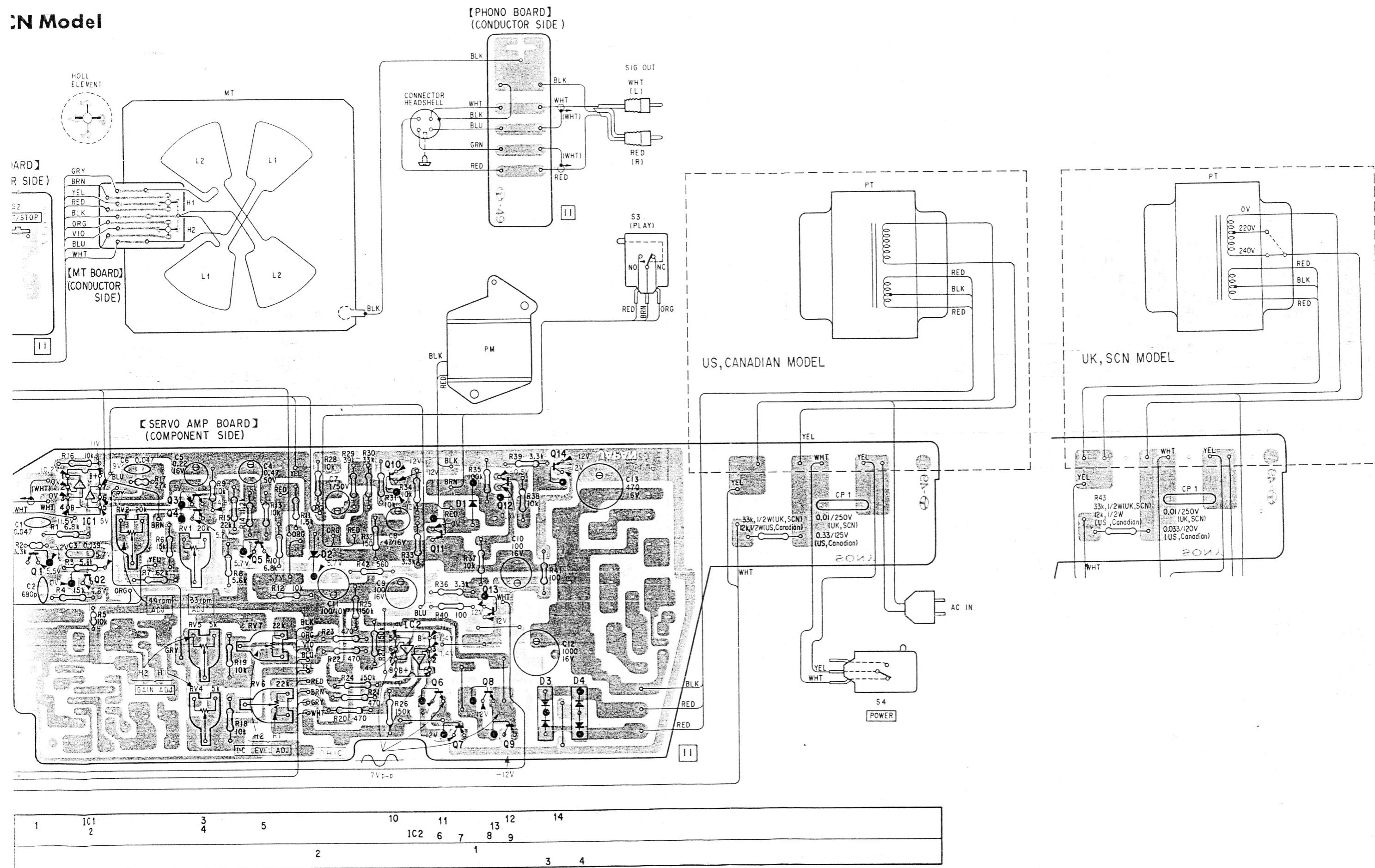
- : B+ pattern
- : B- pattern
- Color code of sleeving over the end of the jacket.

[PHONO BOARD]
(CONDUCTOR SIDE)[SW (C) BOARD]
(CONDUCTOR SIDE)[MT BOARD]
(CONDUCTOR SIDE)[SERVO AMP BOARD]
(COMPONENT SIDE)

US, CANADIAN MODEL



Q	1	IC1 2	3	4	5	10	11	12	14
D						2	1	3	4



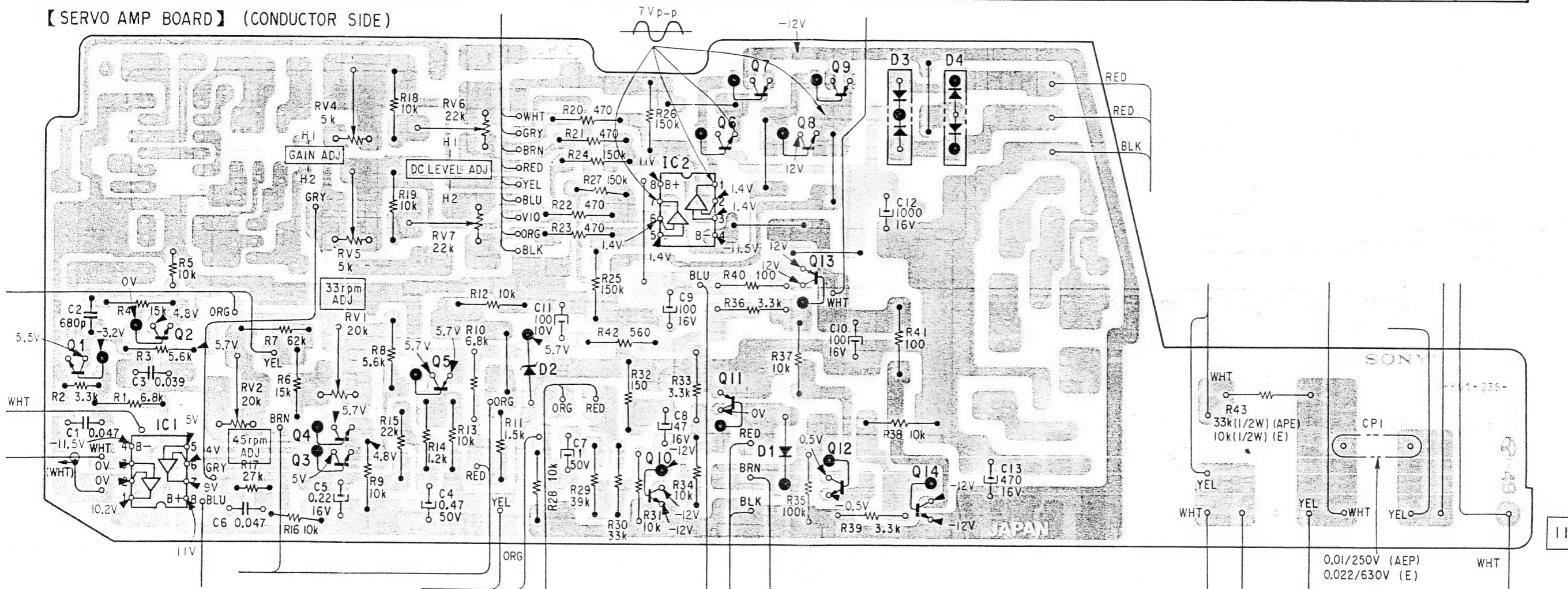
4-3. MOUNTING DIAGRAM

E, AEP Model

- Conductor Side -

	2		3	4	1	3	4		D
1	IC1	3	4	5	IC2	6	7	8	9
					10	11	12	13	14

[SERVO AMP BOARD] (CONDUCTOR SIDE)



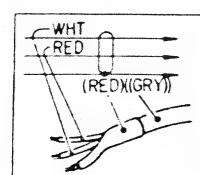
Note

• : B+ pattern

• : Dotted pattern

• : MEFL components.

• Color code of sleeving over the end of the jacket.



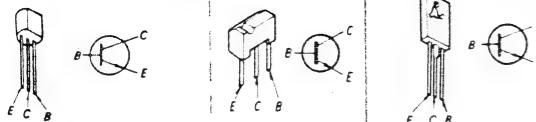
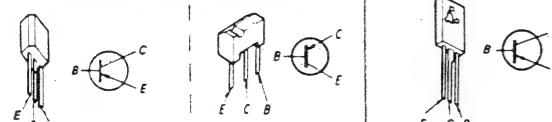
4-4. MOUNTING DIAGRAM

E, AEP Model

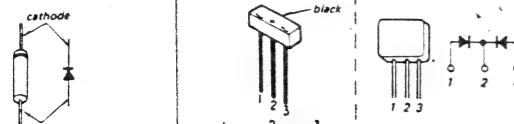
- Component Side -

Replacement Semiconductors

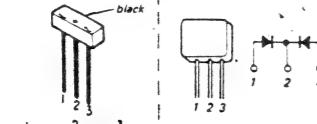
For replacement, use semiconductors except in ().

Q1-4: 2SC1364 (2SD637)
Q10,12,14: 2SD809 (2SD973)Q5,13: 2SA1027R
Q11: 2SA1027R (2SB642)

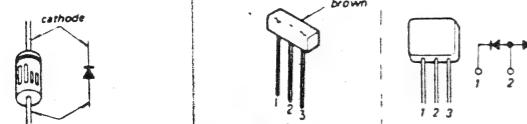
D1: 1S1555



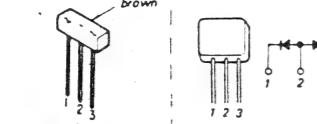
D3: S3VC40 (MI-151)



D2: EQB01-06



D4: S3VC40R (MI-151R)

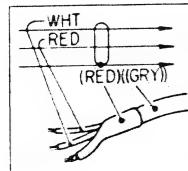
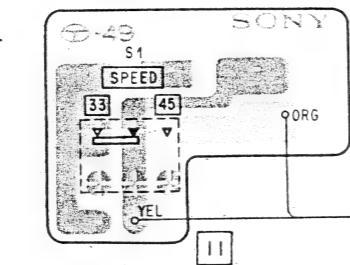
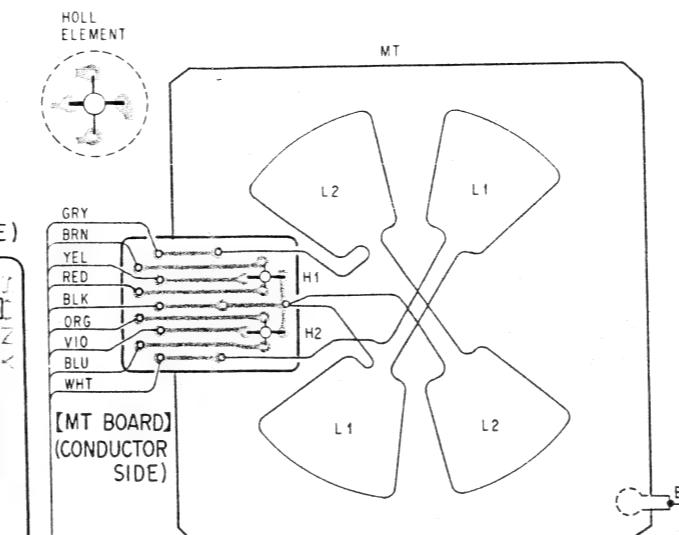
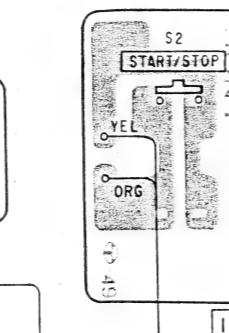
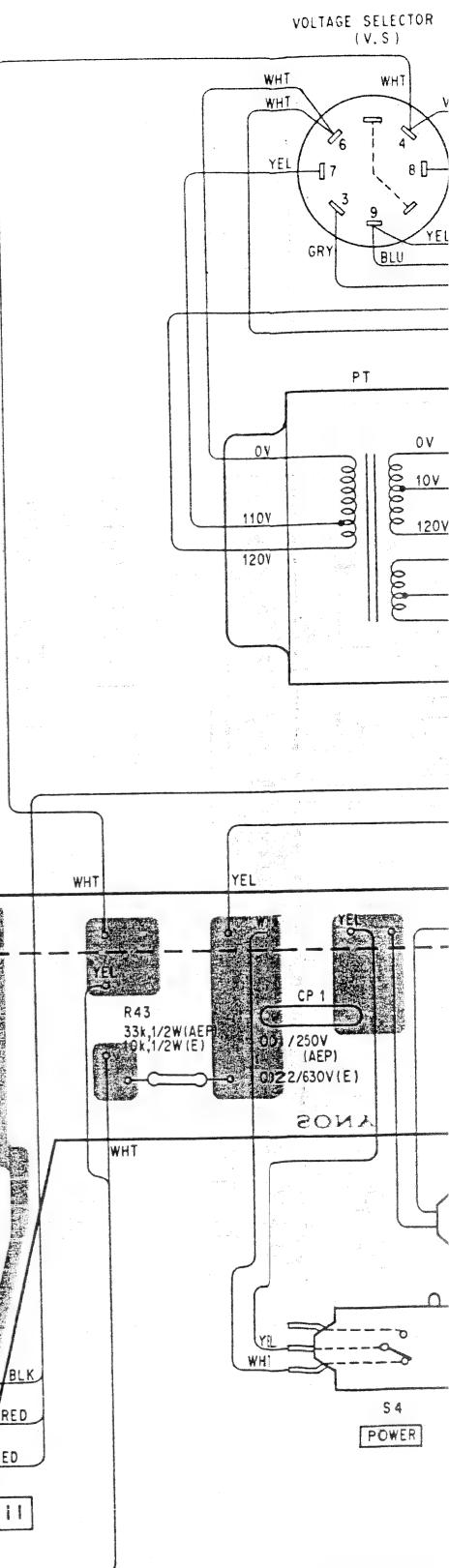
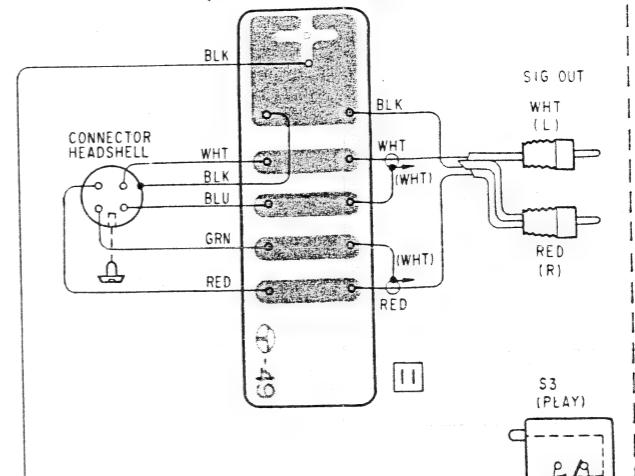
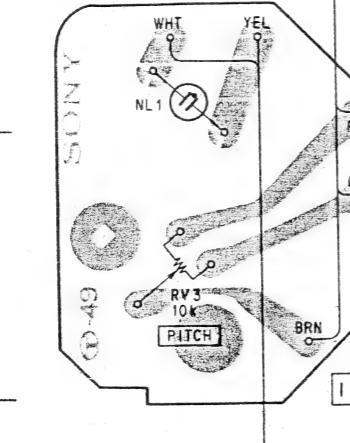
IC1,2: μ PC4558C

H1,2: F-1409

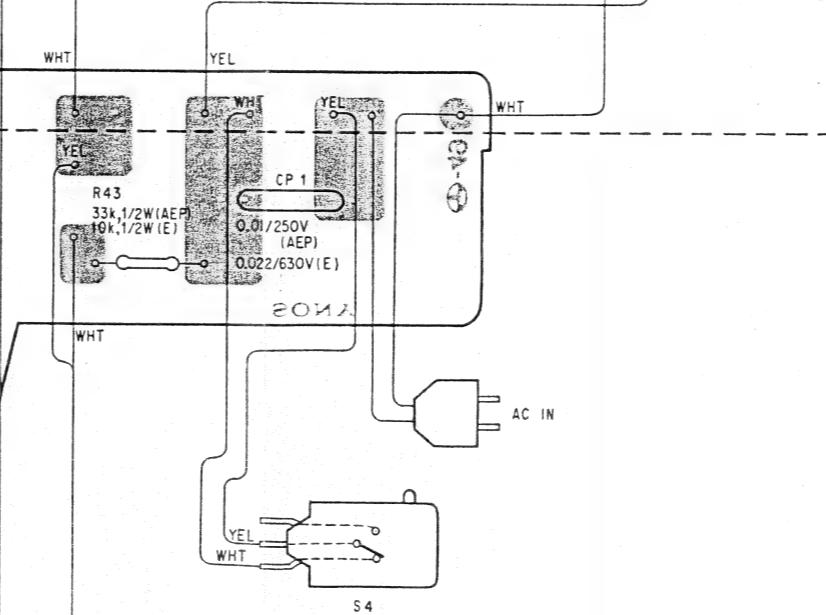
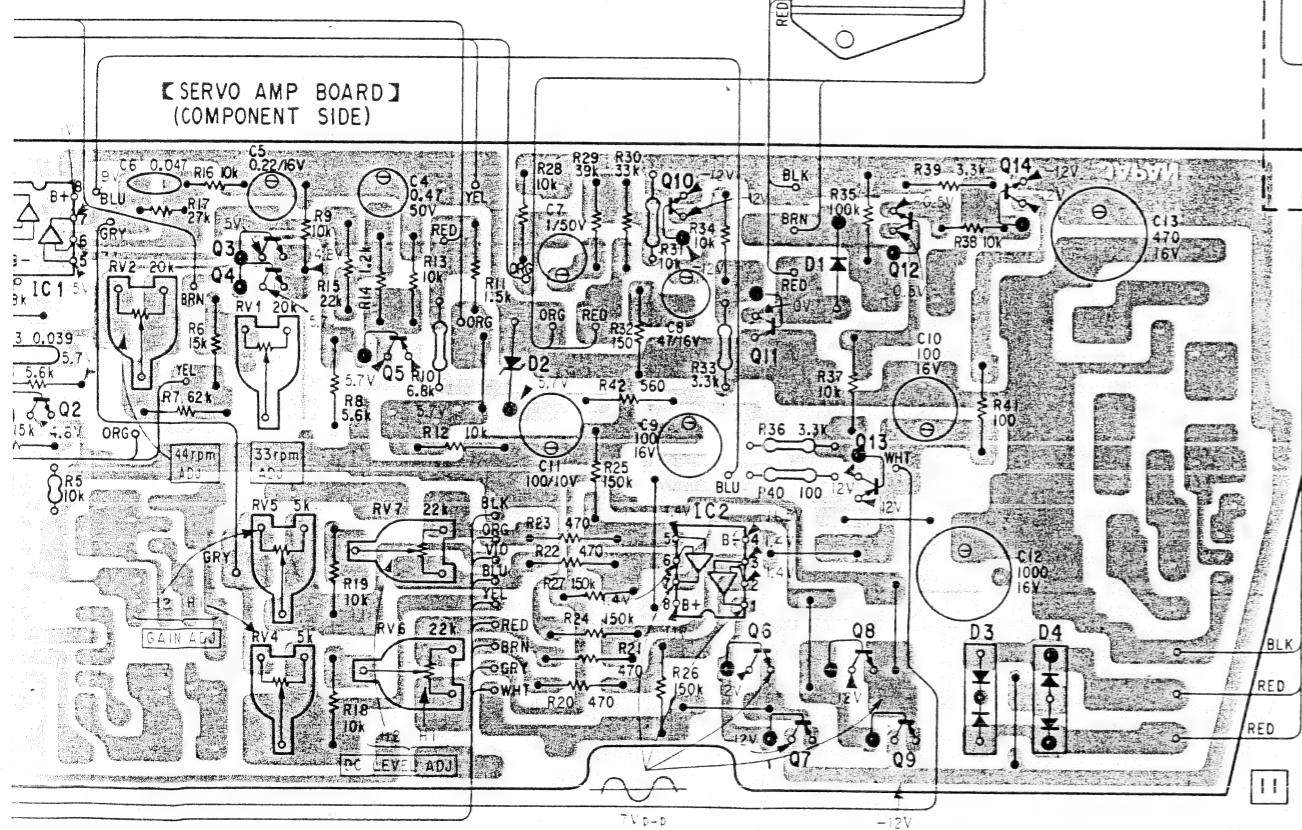
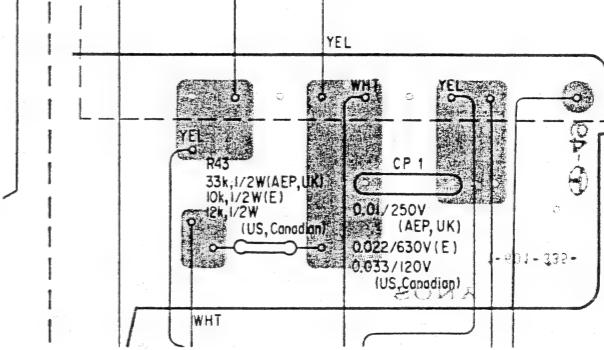
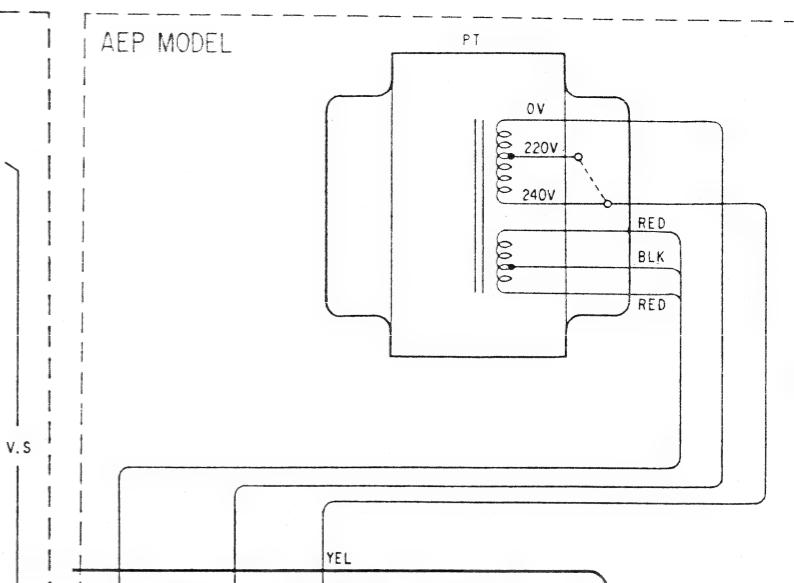
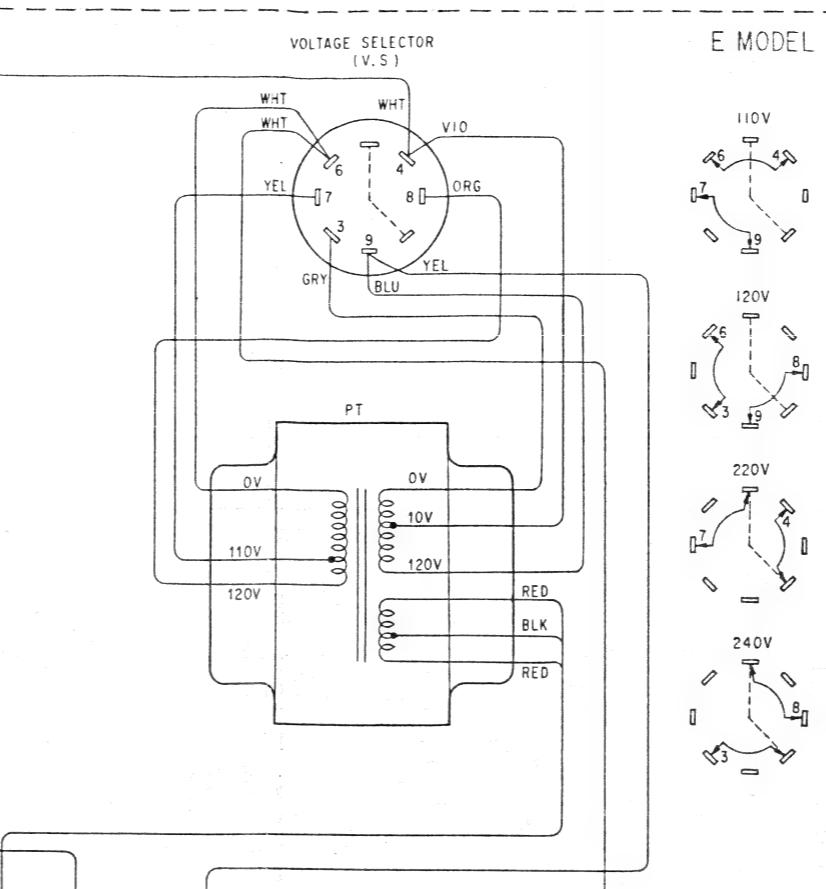
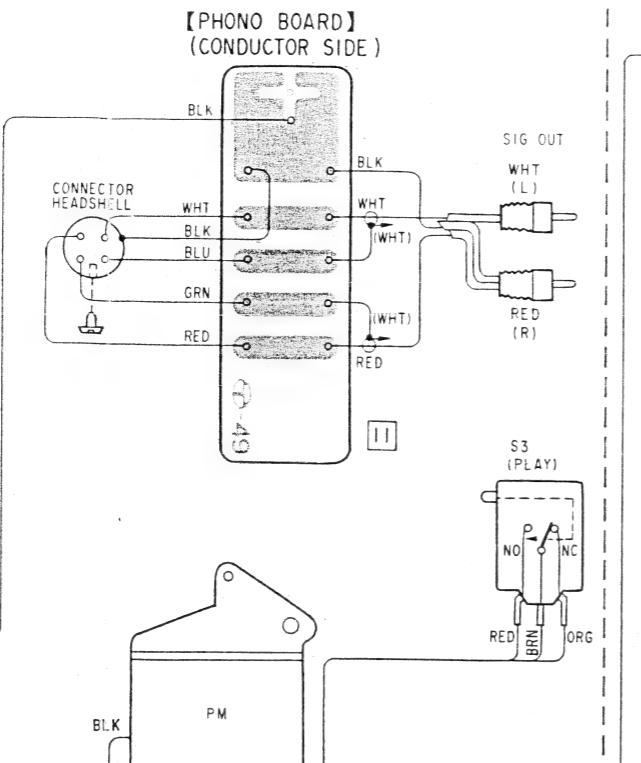
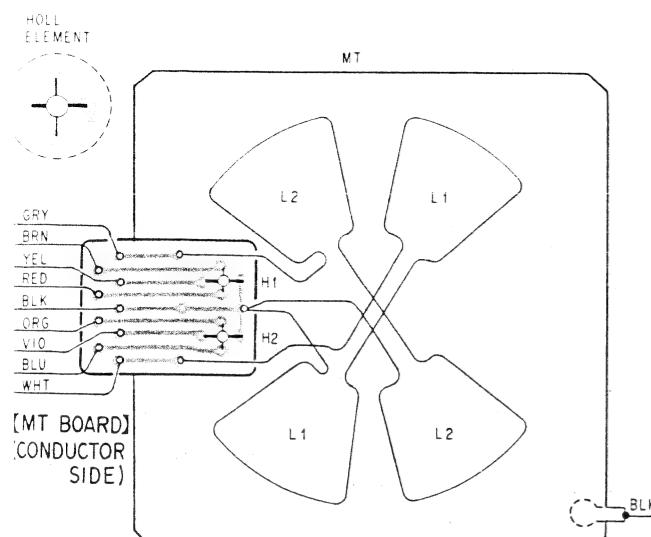


Note

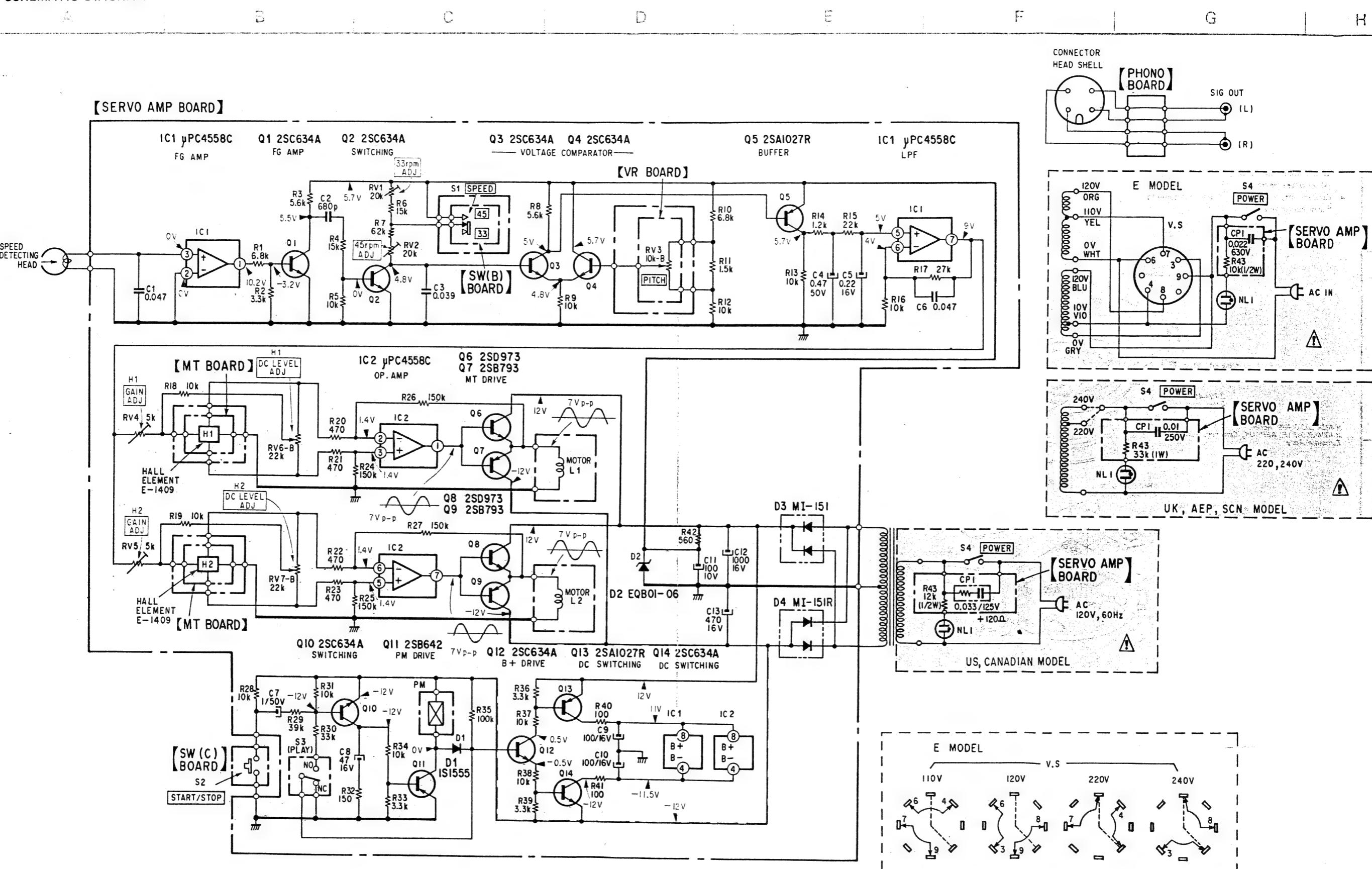
- : B+ pattern
- : B- pattern
- : MELF components
- : Color code of sleeving over the end of the jacket.

[SW (B) BOARD]
(CONDUCTOR SIDE)[SW (C) BOARD]
(CONDUCTOR SIDE)[PHONO BOARD]
(CONDUCTOR SIDE)[VR BOARD]
(CONDUCTOR SIDE)

Q IC	1 IC1 2	3 4	5	6 IC2 7	8 9	10 11 12 13 14	
D				2	1	3 4	



IC1	3	5	10	11	12	14
2	4					
			IC2	6	7	8
				9		
			2		1	
						3



Note: Les composants identifiés par un trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note:

- All capacitors are in μ F unless otherwise noted. pF: μ pF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}$ W unless otherwise noted. k Ω : 1000 Ω ; M Ω : 1000 k Ω
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken under no-signal 33 rpm X'TAL LOCK conditions with a VOM (20 k Ω /V).

- Transistor base-emitter voltages are measured on the 2.5V range.
- : B+ bus.
- - : B- bus.
- : panel designation.
- : adjustment for repair.

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

SECTION 5
EXPLODED VIEWS

A

B

C

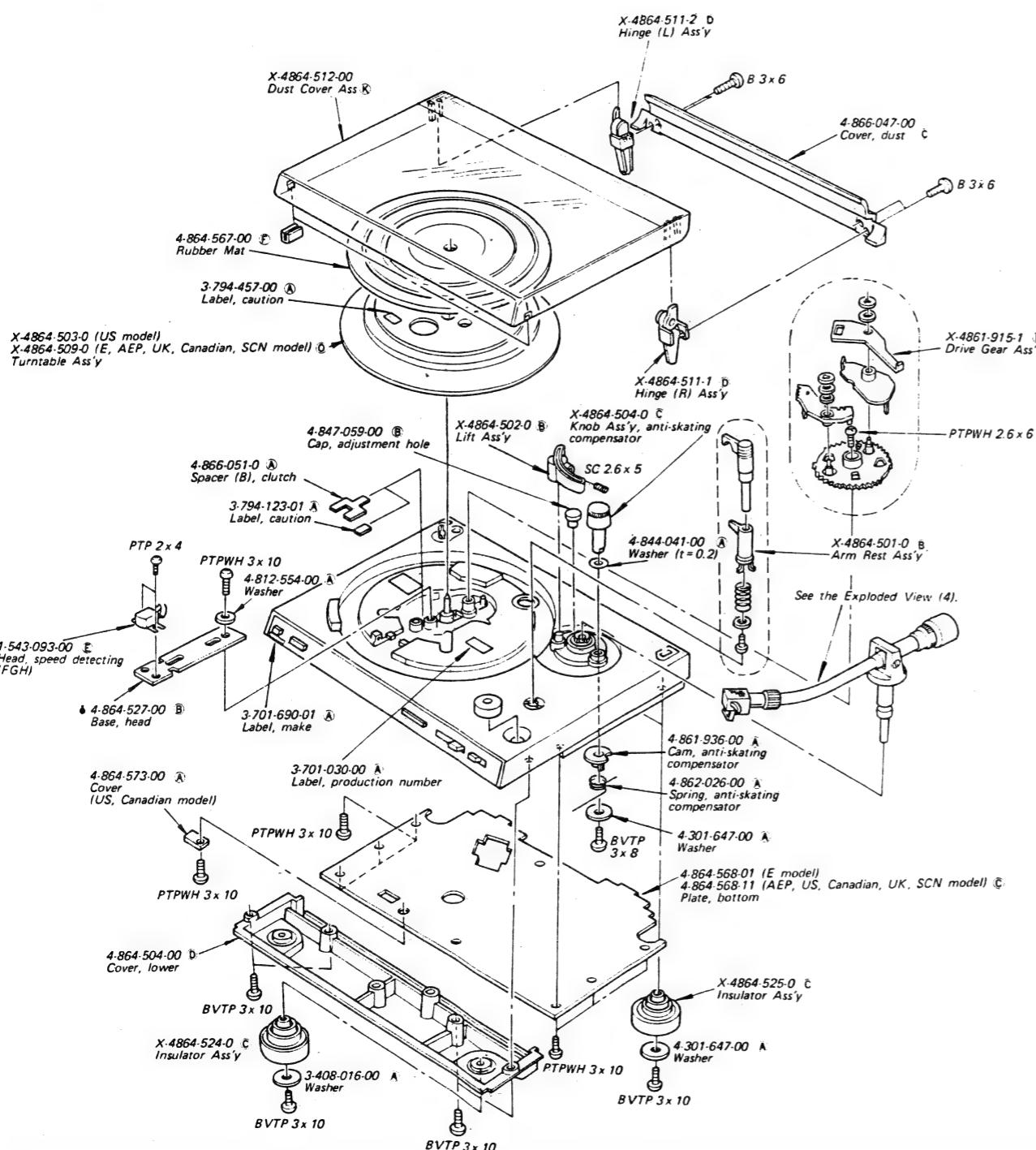
D

(1)

Note:

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head
- Circle letters (A to Z) are applicable to European models only.

1



2

2

3

4

5

A

B

C

D

(2)

Note:

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head
- Circle letters (A to Z) are applicable to European models only.

1

2

3

4

5

Note: Les composants identifiés par un tramé et une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

A

8

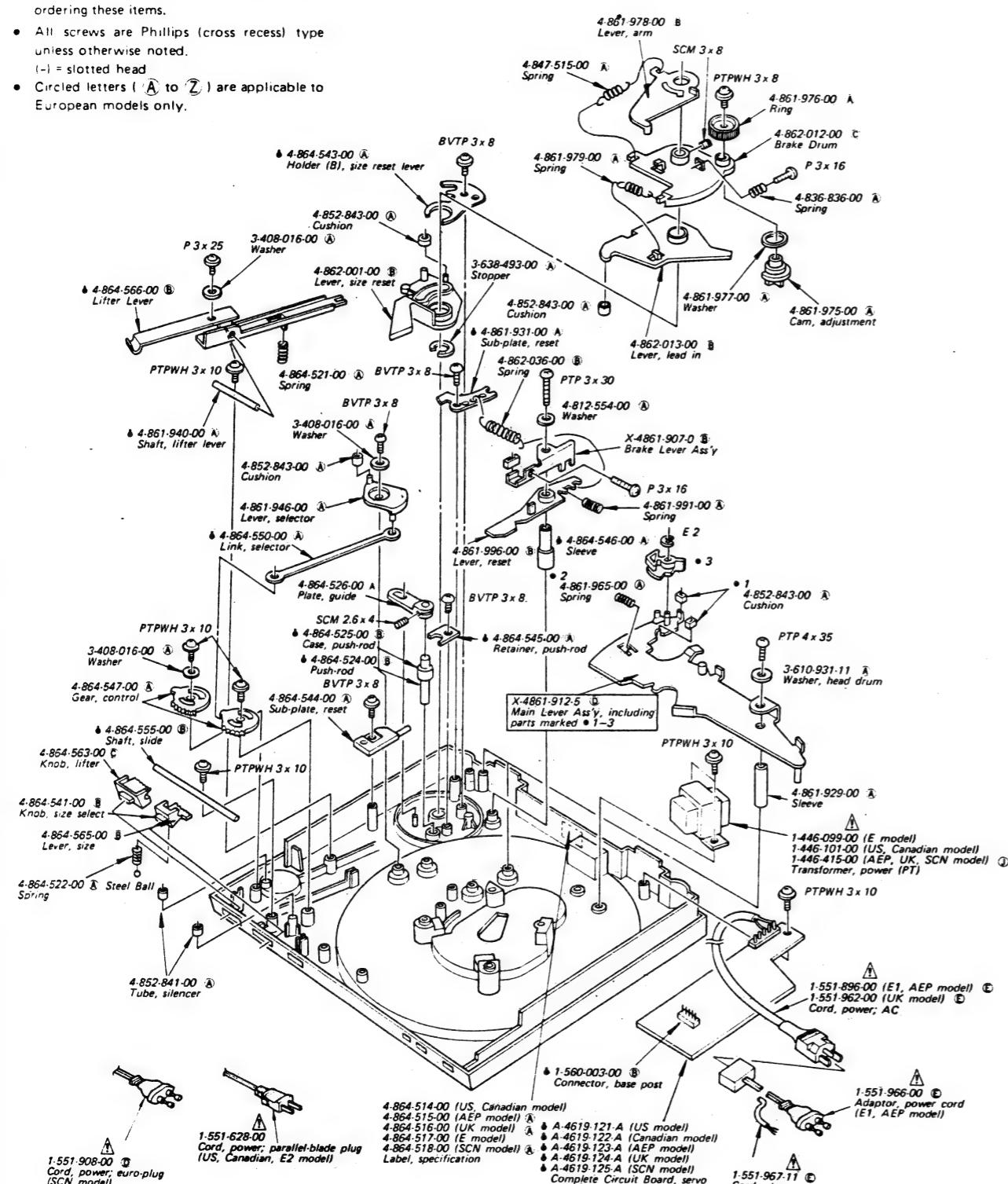
1

1

(3)

Note:

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (A to Z) are applicable to European models only.



Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

- 27 -

Note: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

A

B

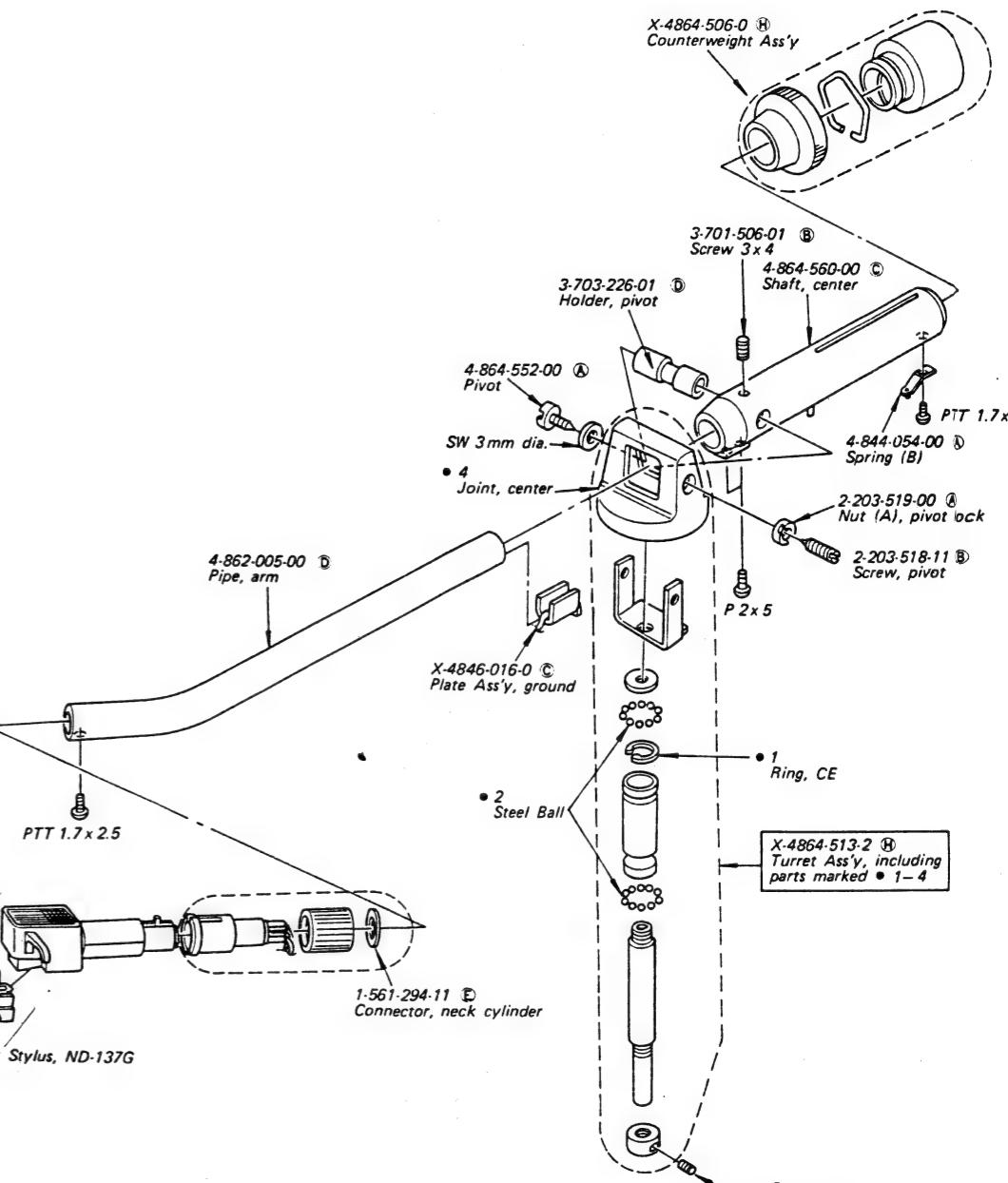
C

D

1

Note:

- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (\textcircled{A} to \textcircled{Z}) are applicable to European models only.



- 28 -

SECTION 6

ELECTRICAL PARTS LIST

Note: Circled letters (A to Z) are applicable to European models only.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description			
COMPLETE CIRCUIT BOARDS														
● A-4619-121-0	Servo Amp (US model)		H1,2	8-719-814-09	④ F-1409	RV1,2	1-226-237-00	④ 22 k, variable	1-551-731-00	④ Cord, plug	(Canadian, AEP, UK, SCN, E model)			
● A-4619-122-0	Servo Amp (Canadian model)					RV3	1-226-196-00	④ 10 k-B, adjustable	1-551-835-21	④ Cord, plug (US model)				
● A-4619-123-0	Servo Amp (AEP model)					RV4,5	1-226-235-00	④ 5 k, variable	④ 1-551-896-00	④ Cord, power; 3p (AEP, E1 model)				
● A-4619-124-0	Servo Amp (UK model)					RV6,7	1-226-237-00	④ 22 k-B, adjustable	④ 1-551-908-00	④ Cord, power; euro-plug (SCN model)				
● A-4619-125-0	Servo Amp (SCN model)								④ 1-551-962-00	④ Cord, power; 3p (UK model)				
● A-4619-126-0	Servo Amp (E model)								④ 1-551-966-00	④ Adaptor, power cord (E1, AEP model)				
PRINTED CIRCUIT BOARD														
● 1-587-197-00	Motor			TRANSFORMERS			S1	1-553-071-00	④ Key, SPEED	④ 1-551-967-00	④ Cord, power (UK model)			
● 1-601-342-00	Switch (B)			PT	④ 1-446-099-00	Power (E model)	S2	1-552-539-00	④ Key, START/STOP	● 1-560-003-00	④ Connector, base post			
● 1-601-344-00	Phono			PT	④ 1-446-101-00	Power (US, Canadian model)	S3	1-516-657-00	④ Miniature, play	1-561-294-11	④ Connector, neckcylinder			
● 1-601-345-00	Variable Resistor			PT	④ 1-446-415-00	④ Power (AEP, UK, SCN model)	S4	④ 1-516-657-00	④ Miniature, POWER (US, Canadian model)	1-601-344-00	④ Phono Board			
SEMICONDUCTORS														
Transistors														
⇒Q1-4	8-729-663-47	④ 2SC1364	C1	1-101-006-00	④ 0.047	CP1	④ 1-129-718-00	Capacitor 0.022 630V film (E model)	1-549-096-00	④ Cartridge, VL-37G				
Q5	8-729-612-77	④ 2SA1027R	C2	1-102-116-00	④ 680p	CP1	④ 1-130-196-00	④ Capacitor 0.01 250V film (AEP, UK, SCN model)	3-701-613-00	④ Bag, plastic				
⇒Q6	8-729-180-93	④ 2SD809	C3	1-108-360-00	④ 0.039	CP1	④ 1-231-326-11	Encapsulated Component (US model)	3-701-616-00	④ Bag, plastic				
⇒Q7	7-729-173-13	④ 2SB731	C4	1-123-351-00	④ 0.47	CP1	④ 1-231-341-00	Encapsulated Component (Canadian model)	3-701-630-00	④ Bag, plastic				
⇒Q8	8-729-180-93	④ 2SD809	C5	1-131-453-00	④ 0.22	FGH	1-543-093-00	④ Head, speed detecting	3-701-634-00	④ Bag, plastic				
⇒Q9	8-729-173-13	④ 2SB731	C6	1-101-006-00	④ 0.047	NL1	④ 1-519-135-11	④ Lamp	3-701-730-00	④ Bag, plastic				
⇒Q10	8-726-388-00	④ 2SC1364	C7	1-123-352-00	④ 1	PM	1-454-202-00	④ Solenoid	3-701-806-00	④ 45 rpm Adapter				
⇒Q11	8-729-612-77	④ 2SA1027R	C8	1-123-319-00	④ 47	VS	④ 1-526-576-00	④ Voltage Selector (E model)	3-703-106-00	Label, distination (E2 model)				
⇒Q12	8-726-388-00	④ 2SC1364	C9,10	1-123-320-00	④ 100				3-703-157-01	Label, distination (US model)				
Q13	8-729-612-77	④ 2SA1027R	C11	1-123-307-00	④ 100				3-770-988-11	④ Manual, instruction (UK, AEP, SCN, E model)				
⇒Q14	8-726-388-00	④ 2SC1364	C12	1-123-324-00	④ 1000				3-770-988-21	Manual, instruction (US, Canadian model)				
			C13	1-123-323-00	④ 470				3-794-123-11	④ Label, caution				
ICs														
IC1,2	8-759-145-58	④ μPC4558C	RESISTORS						3-794-552-21	Card, customer (US model)				
Diodes														
D1	8-719-815-55	④ 1S1555	All resistors are in ohms. Common 1/4W carbon resistors are omitted.						3-794-574-31	Manual, instruction; french (Canadian model)				
D2	8-719-931-06	④ EQB01-06	Refer to the list on page 6 for their part numbers.						4-858-407-00	④ Adjustor, DP Stylus, DN-137G				
⇒D3	8-719-500-34	④ S3VC40	Check schematic diagram for values.											
⇒D4	8-719-501-34	④ S3VC40R												
⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.														
Note: The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.														
Note: Les composants identifiés par un trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.														

Items marked **●** are not stocked because they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un trame et une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters (A to Z) are applicable to European models only.

9-958-701-01

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— 29 —

79106121-1
Printed in Japan

Note: The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un trame et une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
1-549-096-00	④ Cartridge, VL-37G
3-701-613-00	④ Bag, plastic
3-701-616-00	④ Bag, plastic
3-701-630-00	④ Bag, plastic
3-701-634-00	④ Bag, plastic
3-701-730-00	④ Bag, plastic
3-701-806-00	④ 45 rpm Adapter
3-703-106-00	Label, distination (E2 model)
3-703-157-01	Label, distination (US model)
3-770-988-11	④ Manual, instruction (UK, AEP, SCN, E model)
3-770-988-21	Manual, instruction (US, Canadian model)
3-794-123-11	④ Label, caution
3-794-552-21	Card, customer (US model)
3-794-574-31	Manual, instruction; french (Canadian model)
4-858-407-00	④ Adjustor, DP Stylus, DN-137G

Items marked **●** are not stocked because they are seldom required for routine service. Some delay should be anticipated when ordering these items.

STEREO TURN TABLE SYSTEM

PS-333

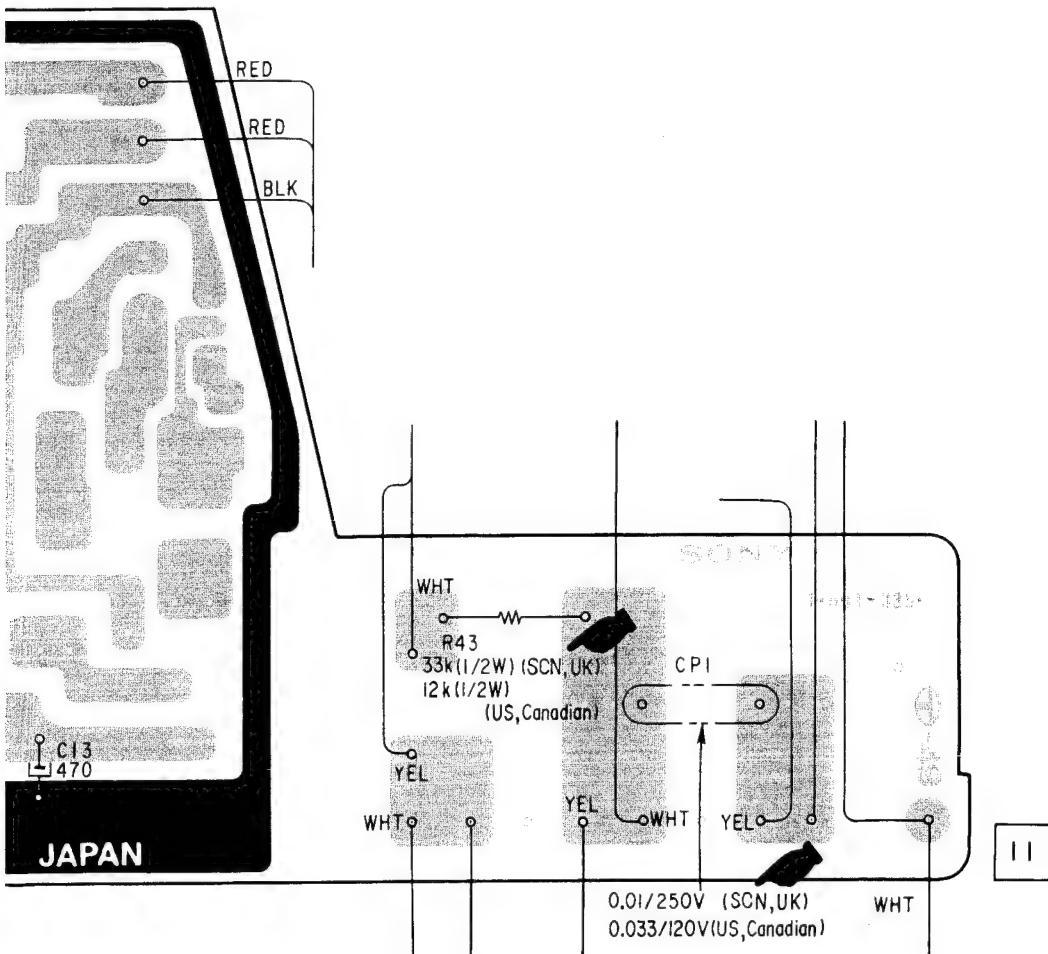
CORRECTION

US Model
AEP Model
E Model
SCN Model
Canadian Model
UK Model

No. 1
September, 1979

 : Corrected portions.

— Page 13 —



SONY
SERVICE MANUAL

Sony Corporation

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9-958-701-91

79106121-1
Printed in Japan

SONY

サービスガイド

1979年9月発売

ステレオ ターンテーブル システム

PS-333

概略仕様

電 源	AC 100V, 50/60Hz
消費電力	6W
大きさ	430×110×365mm (幅/高さ/奥行)
最大突起部を含む	

重 さ 約4.7kg

ターンテーブル部

ターンテーブル	直径 32.4cm、アルミダイキャスト
モータ・モーター	薄型リニアBSL (ブラシレス & スロットレス)
駆動方式	DCサーボモーター
回転数	ダイレクトドライブ
速度調整範囲	33 1/3, 45rpm
ワウ・フラッター	±6%
S/N	0.03%以下 WRMS
オートマチック機構	70dB以上(DIN-B)
	リードイン、リジェクト、リターン

トーンアーム部

タイプ	スタティックバランス型
有効長	ユニバーサルトーンアーム
全 長	216.5mm
オーバーハング	290mm
トラッキングエラー	16.5mm
針圧調整範囲	+3°～-1°
使用可能カートリッジ	0~3g
シェル合計重量範囲	11.5~19g

カートリッジ VL-37G

タイプ	MM型
周波数特性	10Hz~20kHz
チャンネルセパレーション	23dB以上(1kHz)
出力電圧	3mV(1kHz, 3.54cm/s, 45°)
針 圧	1.5~2.5g (最適針圧2g)
交換針	ND-137G
重 さ	13g (シェル含む)

【外観写真】



・外観名称は2ページ参照。

【概要】

- ・薄型リニアBSL(ブラシレス&スロットレス)モーター採用。
- ・回転速度の検出にマグネティックサーボ方式を使用。
- ・操作スイッチ類はすべて前面配置。

【海外では使用できません】

本機は、電気用品取締法（安全規格）に基づいて、日本国内用につくられています。海外向けの変更は、製品の安全規格が日本と異なるためできません。

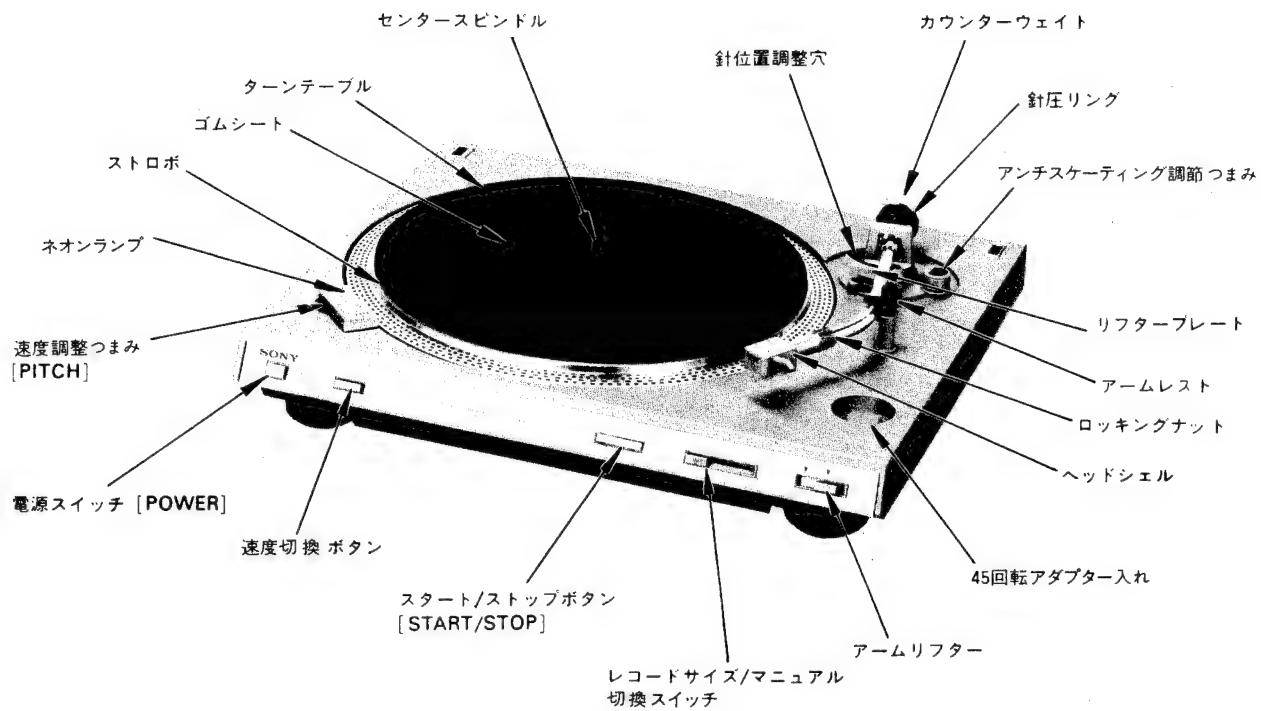
【電源周波数の切換えについて】

本機は、DCモーターを使用しているため、電源周波数の切換えは不要です。

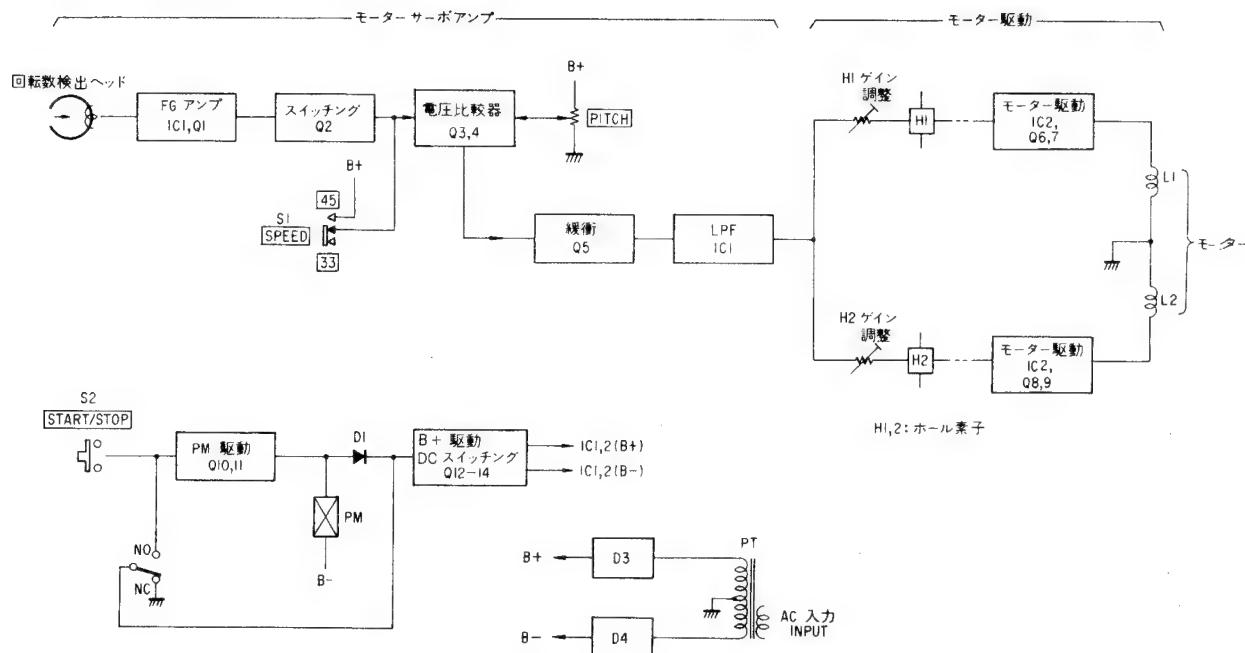
安全・性能維持のため、必ず指定の部品をご使用下さい。

AUD

【外観名称】



【ブロックダイヤグラム】

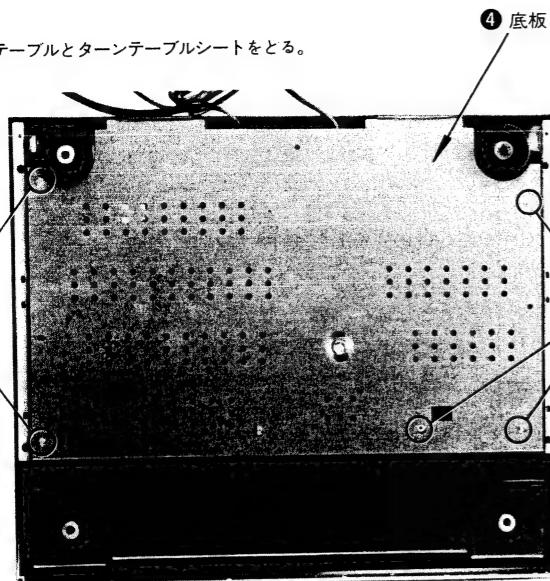


各部の外し方

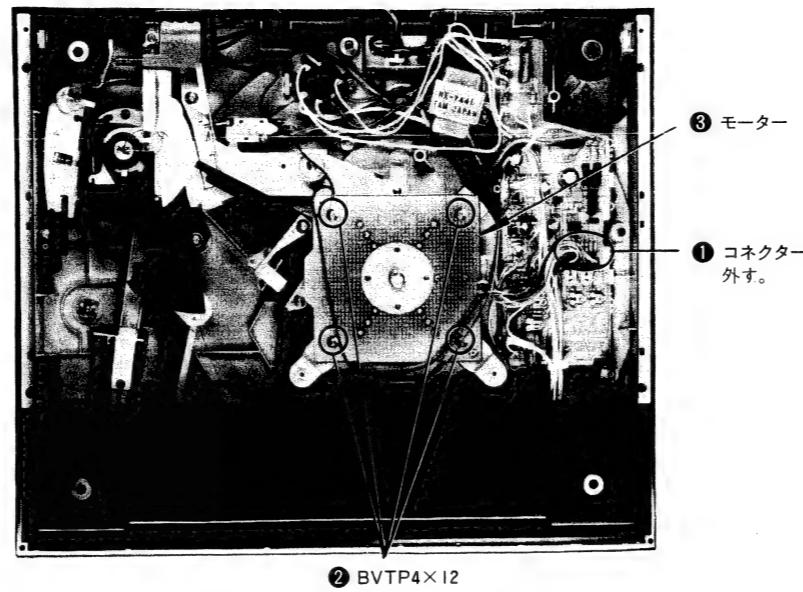
・図中に①など番号のあるものは、その番号順に外す。

【底板】

① ターンテーブルとターンテーブルシートをとる。

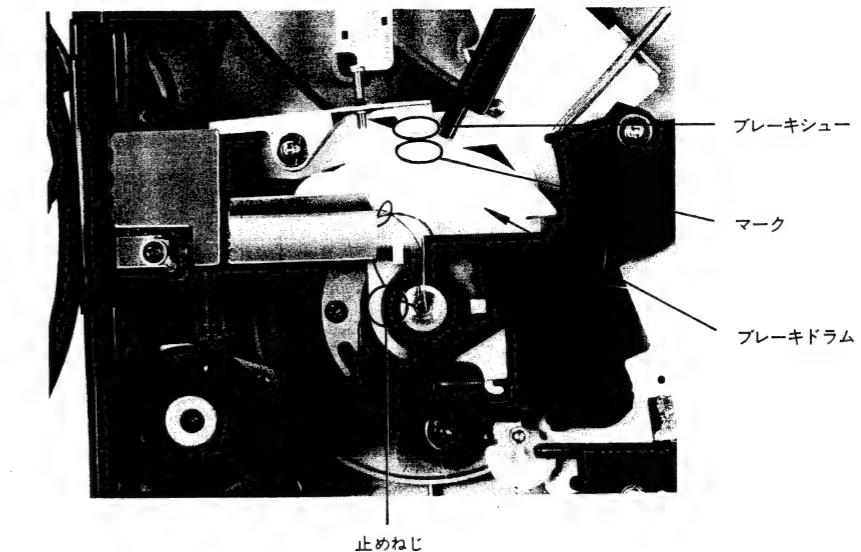


【モーター】

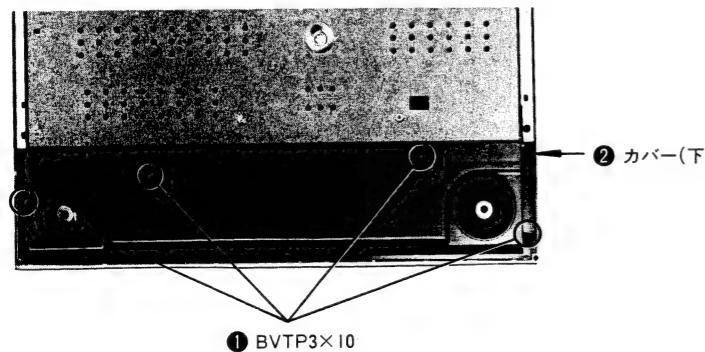


【ブレーキドラムの取付け】

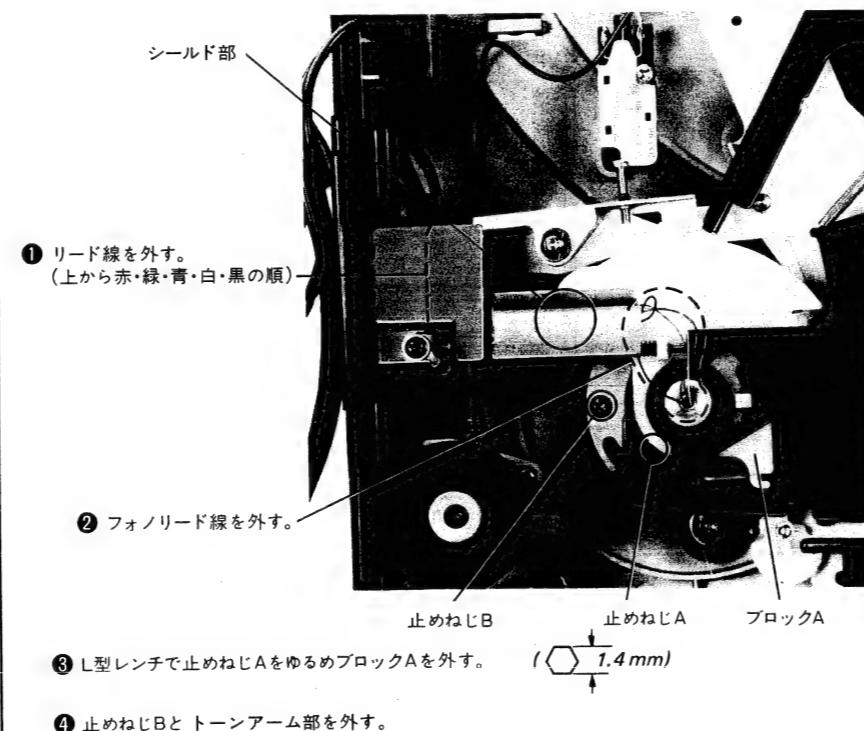
1. トーンアームをアームレストに固定する。
2. 止めねじをゆるめブレーキドラムのマークをブレーキシューにあわせる。
3. 止めねじをしめる。



【カバー(下)】

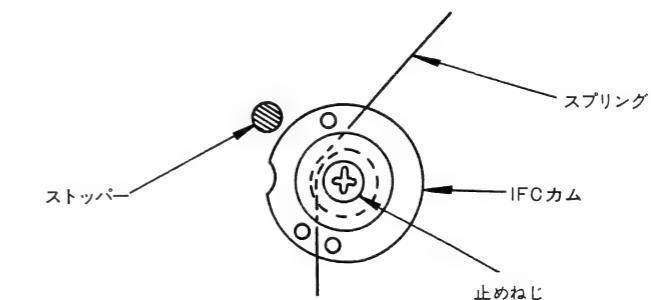


【トーンアーム部】



【アンチスケーティング(IFC)調節つまみの取付け】

1. アンチスケーティング(IFC)調節つまみを"0"にあわせる。
2. 図のようにスプリングを取付ける。
3. 止めねじをしめる。

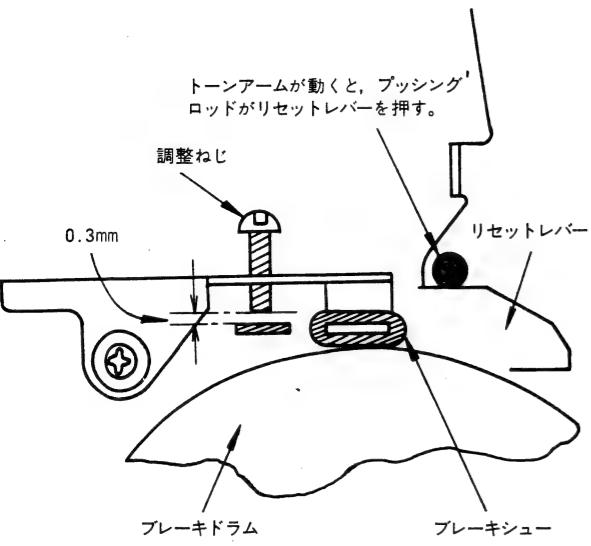


機 構 部 調 整

電 気 部 調 整

【ブレーキ調整】

- ドライブギヤを反時計方向に回すとトーンアームが内側へ動き、ブレーキシューがブレーキドラムに接触する。
- すき間が0.3mmになるようにねじを調節する。

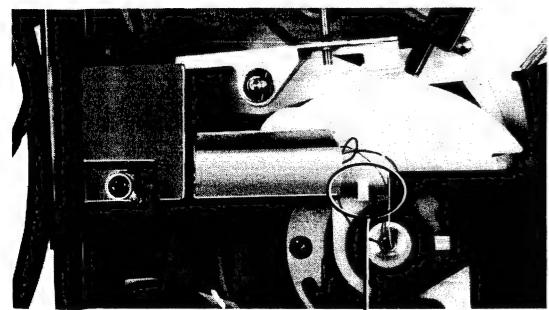


【リターン位置調整】

- ターンテーブルを手でまわし、トーンアームが内側へ動くようにする。
- 針とスピンドル間が61~64mmの位置でトーンアームがリターンするようにねじを調節する。

リターン時期	ねじを回す方向
早くなる	時計 方向
遅くなる	反時計 方向

テストレコード(YFSC-16)をかけ、リターンカウントが15~17でリターンすることを確認する。

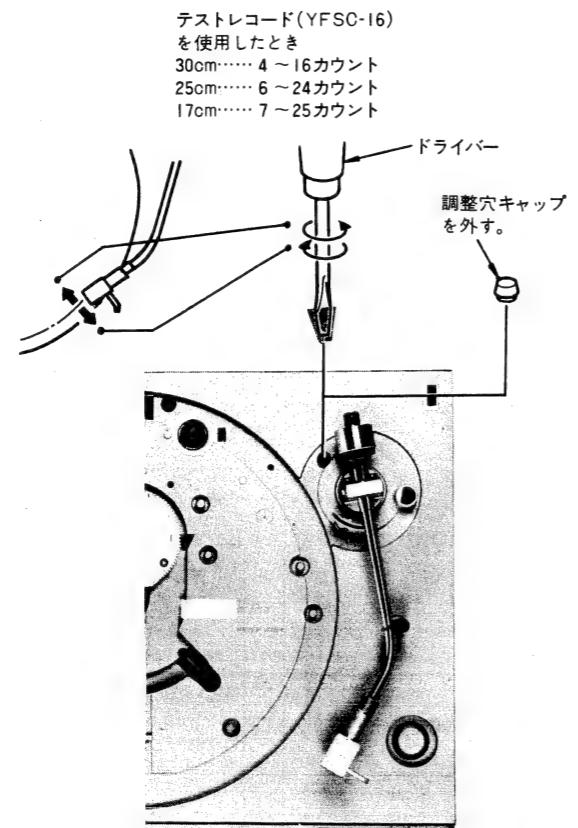


調整ねじ

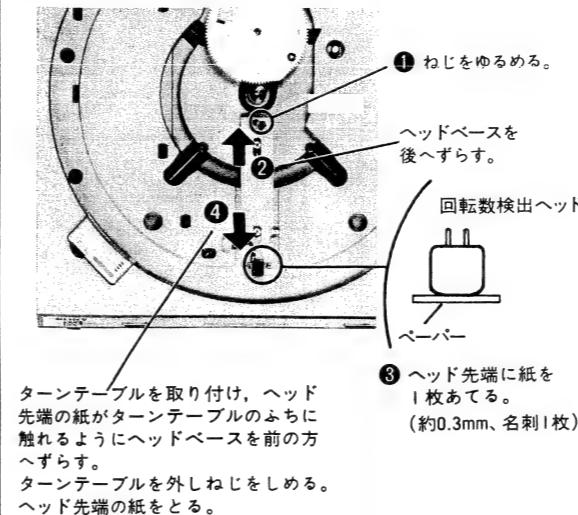
【針位置調整】

- レコードをオートスタートさせたとき、針がレコード盤上の正しい位置へ降りるように、針位置調整ねじを回す。
(調整目安：調整ねじ1回転で12mmくらい移動する。)

注：レコードサイズセレクタ一つまみの位置を30cmにして調整しておけば、25cm、17cmでも正しい位置に降ります。

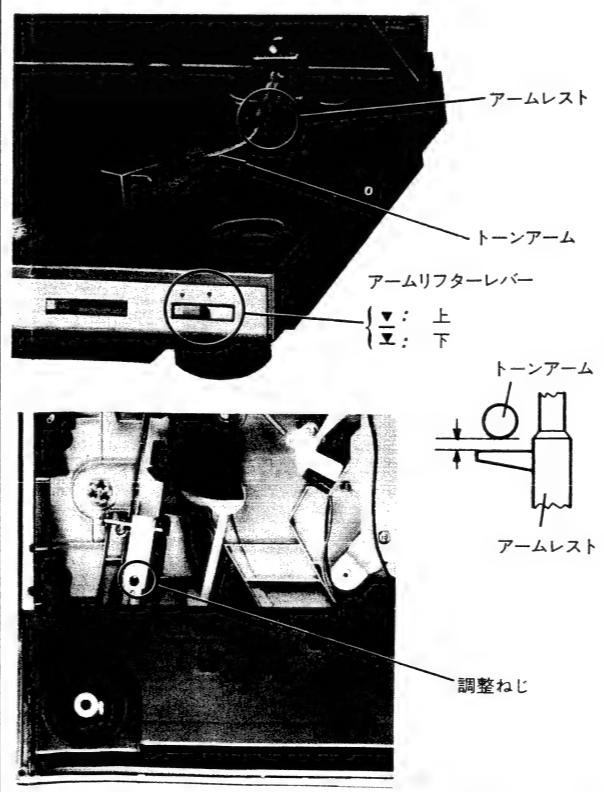


【回転数検出ヘッド位置調整】



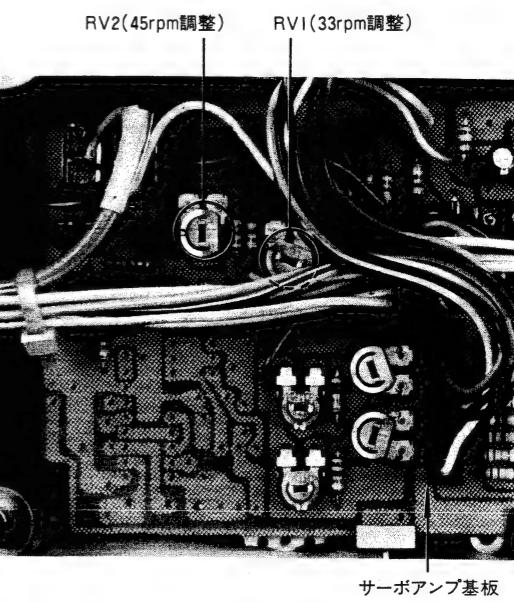
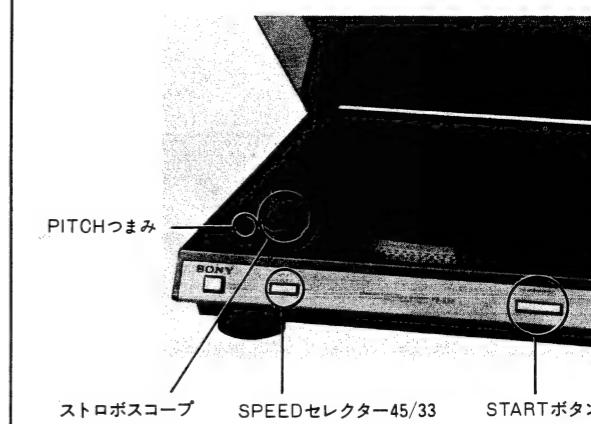
【トーンアーム高さ調整】

- アームレストの止めを外す。
- アームリフターレバーを上にする。
- トーンアームとアームレストの間隔が1mmになるように調整ねじを回す。



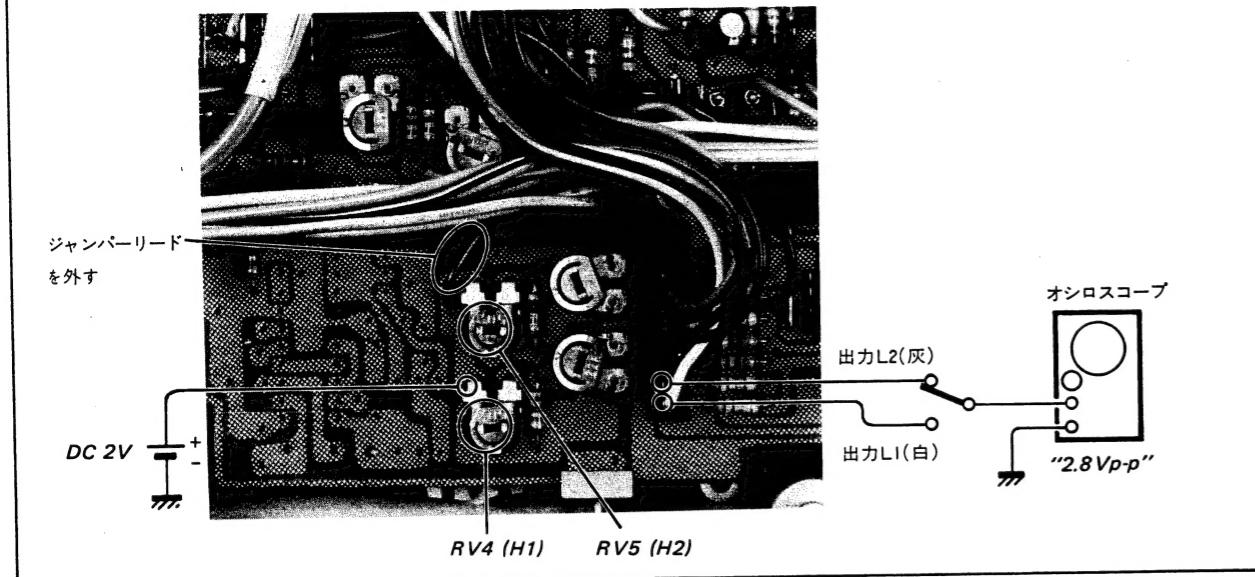
【速度調整】

- PITCHつまみを回転角中央にあわせ STARTボタンを押す。
- SPEEDセレクターを33回転にセットする。RV1を回して縞目が止まって見えるように調整する。
- SPEEDセレクターを45回転にセットする。RV2を回して縞目が止まって見えるように調整する。



【ゲイン調整】

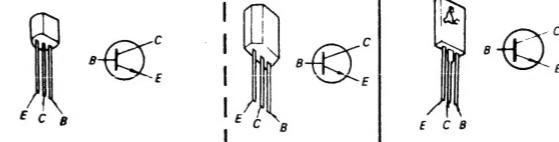
1. 図のジャンパーリードを外す。
2. DC 2Vを加える。
3. 図の出力が2.8Vp-pとなるよう、L1に対してはRV4で調整する、L2に対してはRV5で調整する。



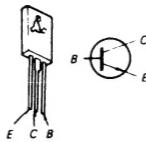
半導体外形図

()内は、補修用として在庫しません。

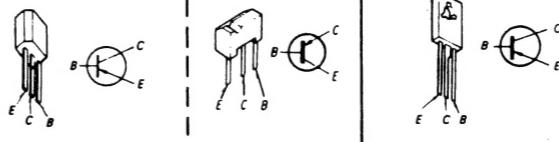
Q1~4
(Q10, 12, 14): 2SC1364 (2SC634A)



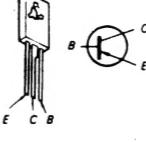
Q6, 8: 2SD809 (2SD973)



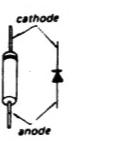
Q5, 13: 2SA1027R
(Q11: 2SA1027R (2SB642))



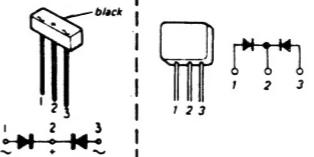
Q7, 9: 2SB731 (2SB793)



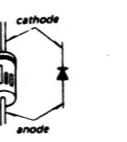
D1: 1S1555



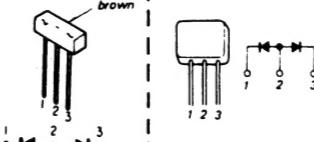
D3: S3VC40 (MI-151)



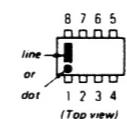
D2: EQB01-06



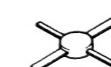
D4: S3VC40R (MI-151R)



IC1, 2: μPC4558C



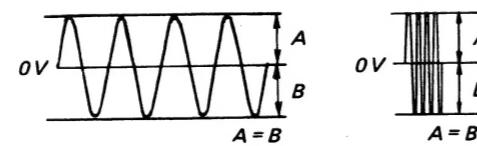
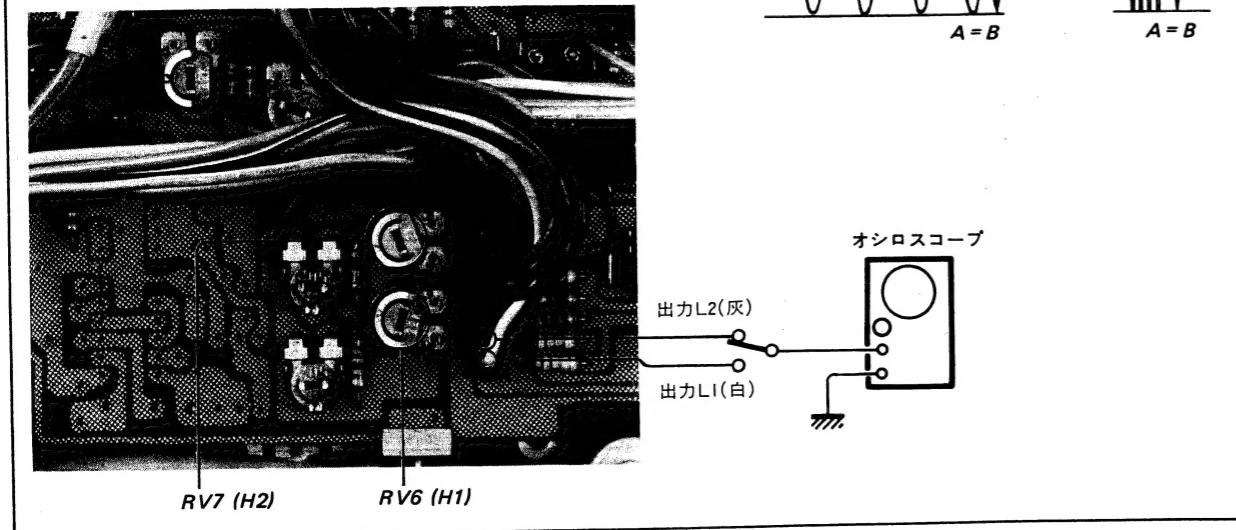
H1, 2: F-1409

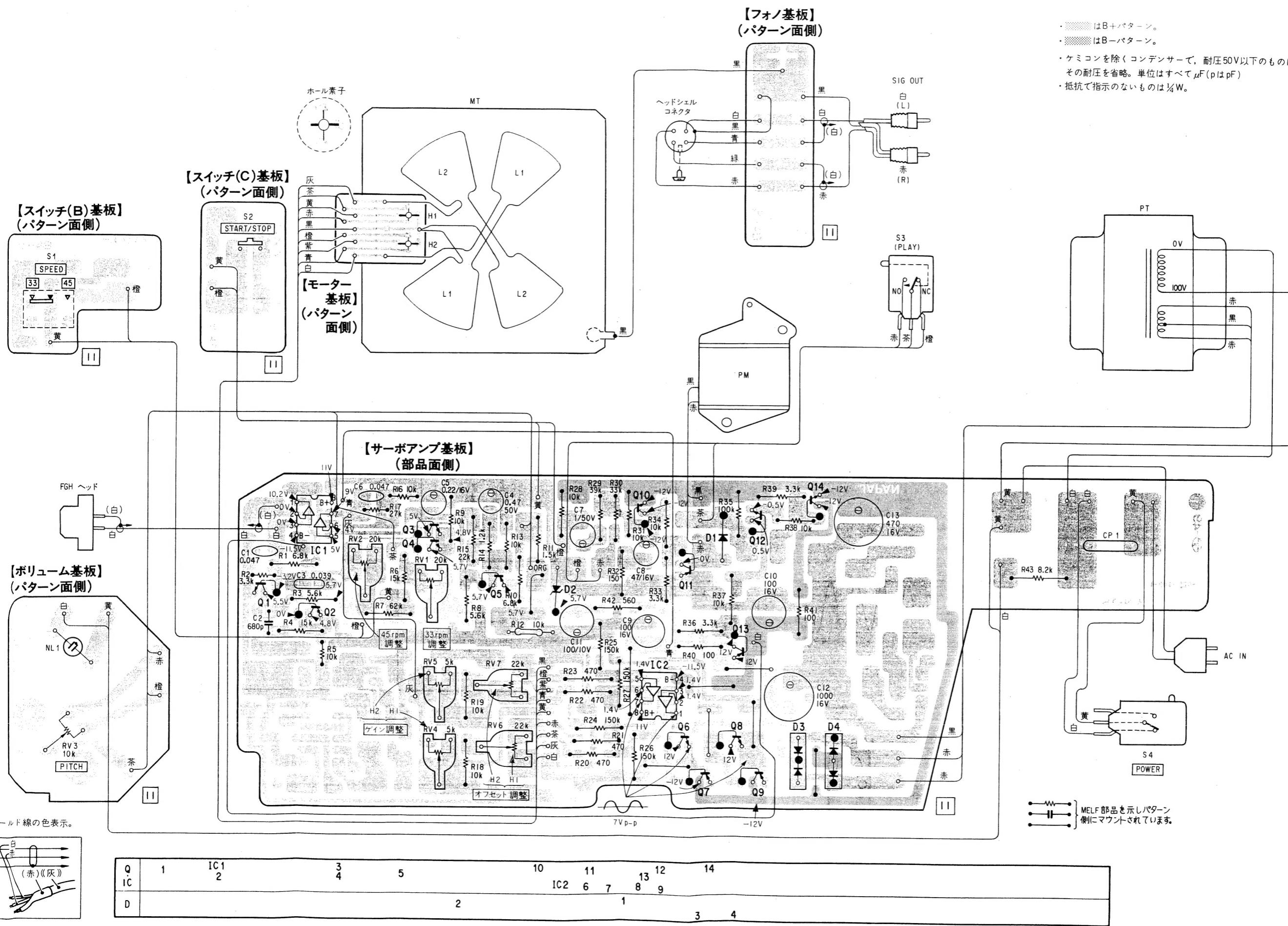


【オフセット調整】

この調整は、ゲイン調整の後に続けて行なう。

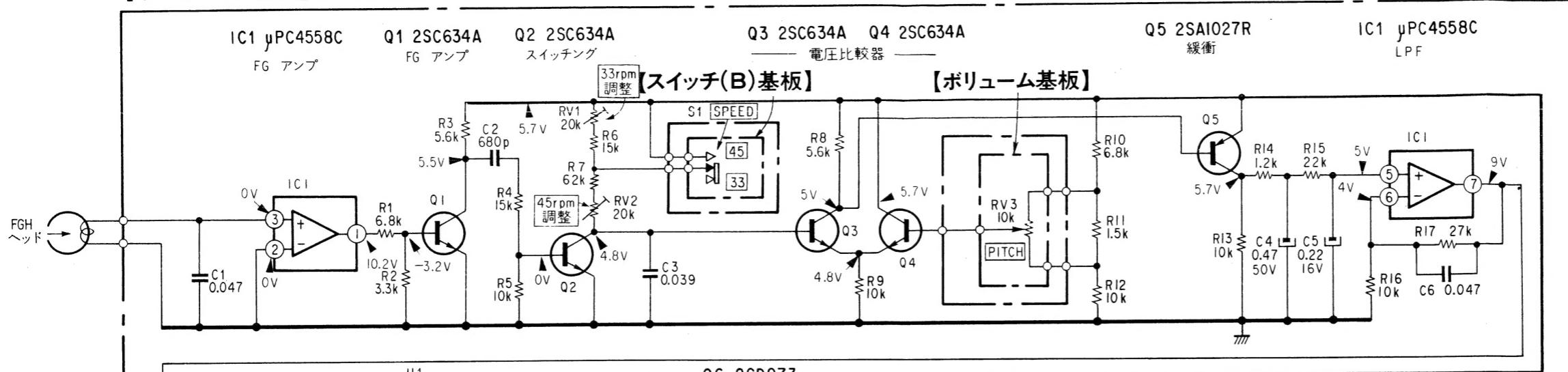
1. L1, L2にオシロスコープを接続する。
2. L1, L2の出力がGNDレベルに対してA=BつまりDCレベルオフセットしないようRV6,7を調整する。
- DCレベルオフセットしないようRV6,7を調整する。
- L1に対してはRV6で調整する。
- L2に対してはRV7で調整する。



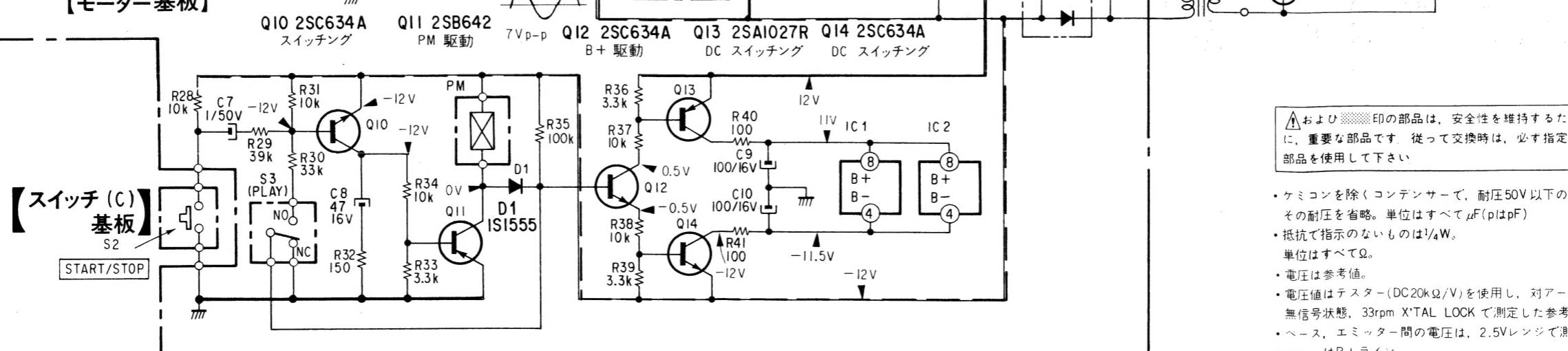
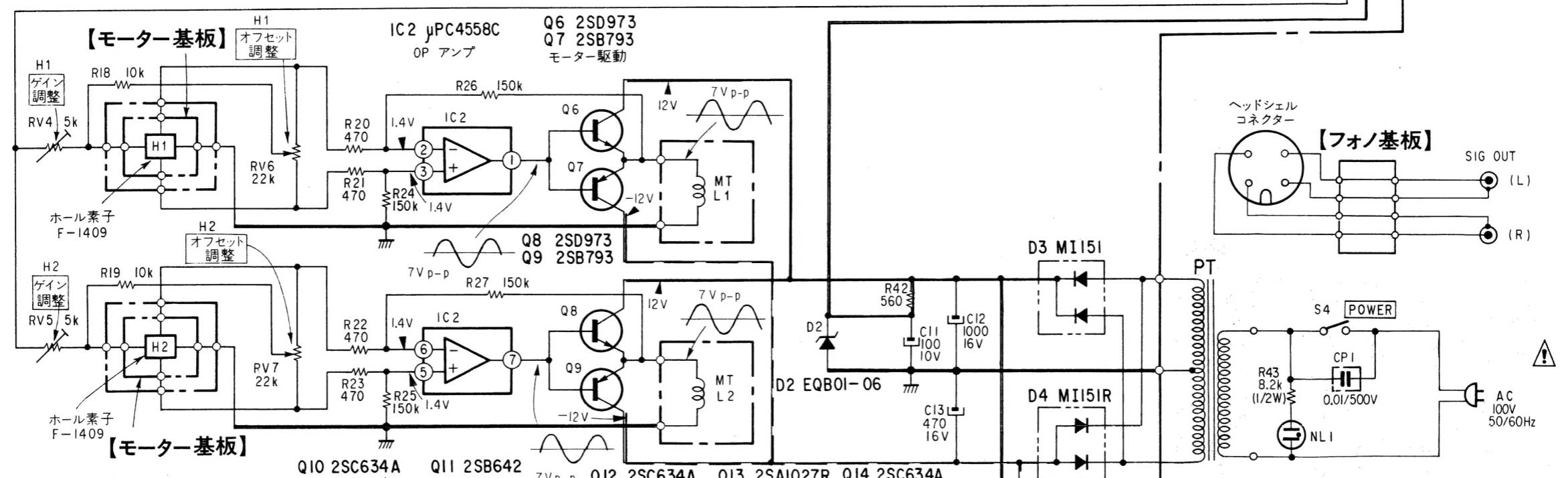


【回路図】

【サーボアンプ基板】



【ボリューム基板】



△および■印の部品は、安全性を維持するため
に、重要な部品です。従って交換時は、必ず指定の
部品を使用して下さい。

- ・ケミコンを除くコンデンサーで、耐圧50V以下のものは、
その耐圧を省略。単位はすべて μ F(△はpF)
- ・抵抗で指示のないものは $1/4$ W。
単位はすべてΩ。
- ・電圧は参考値。
- ・電圧値はテスター(DC20kΩ/V)を使用し、対アース間を
無信号状態、33rpm X'TAL LOCK で測定した参考値。
- ・ベース、エミッター間の電圧は、2.5Vレンジで測定。
- ・—はB+ライン。
- ・—はB-ライン。
- ・□はパネル表示名称。
- ・□は調整名称。

・スイッチ

リファレンスNo.	名 称	現 在 位 置
S 1	SPEED	33
S 2	START/STOP	OFF
S 3	PLAY	OFF
S 4	POWER	OFF

【主要部品表】

◆:補修用のため、回路図、プリント図とは定数または型名
が異なります。

・抵抗、コンデンサーは、特殊なものだけ載せてあります。
それ以外のものは、別冊の補修用標準抵抗・コンデンサー
価格表を参照して下さい。

記号	部品コード	品名	定価	備考	記号	部品コード	品名	定価	備考
半導体 (半導体は改良のため予告なく 変更することがあります。)									
(半導体は改良のため予告なく 変更することがあります。)									
Q	8-729-663-47	2SC1364	A	+	CP1	1-102-050-00	セラミック コンデンサー 0.01μF 500V	A	▲
1~4	" 612-77	2SA1027R	A		FGH	1-543-093-00	回転数検出ヘッド	G	
5	" 180-93	2SD809	C	+	L1,2	1-462-159-00	モーターコイル	E	▲
6	" 173-13	2SB731	C	+	NL1	1-519-135-00	ネオンランプ	E	▲
7	" 180-93	2SD809	C	+	PM	1-454-202-00	ソレノイド	D	▲
8	" 173-13	2SB731	C	+	PT	1-446-134-00	電源トランジ	J	▲
9	" 663-47	2SC1364	A	+	RV1,2	1-226-237-00	半固定 抵抗 22kΩ 33,45rpm	A	
10	" 612-77	2SA1027R	A	+	RV3	" 196-00	可変 抵抗 10kΩ-B PITCH	C	
11	" 663-47	2SC1364	A	+	RV4,5	" 235-00	半固定 抵抗 5kΩ ゲイン	A	
12	" 612-77	2SA1027R	A	+	RV6,7	" 237-00	可変 抵抗 22kΩ-B オフセット	A	
13	" 663-47	2SC1364	A	+	S1	1-553-071-00	キー ^{スイッチ} SPEED	E	
14	" 612-77	2SA1027R	A	+	S2	1-552-539-00	" START/STOP	B	
IC1,2	8-759-145-58	μPC4558C	F		S3	1-516-657-00	マイクロ スイッチ Play	D	
					S4	" 657-00	" POWER	D	▲
						1-452-127-00	マグネット	G	
						" 166-00	"	B	
D	8-719-815-55	1S1555	A			1-549-096-00	カートリッジ VL-37G	S	
1	" 931-06	EQB01-06	D			1-551-472-00	電源コード	D	▲
2	" 500-34	S3VC40	E	+		" 731-00	プラグ付コード	F	
3	" 501-34	S3VC40R	E	+		1-561-294-11	ヘッドシェルコネクター	G	
H1,2	" 814-09	F-1409	F						
コンデンサー (すべて標準部品のため省略)									
抵抗									
▲	R43	1-244-895-00	8.2kΩ 1/2W カーボン	A					

▲および印の部品は、安全性を維持するため
に、重要な部品です。従って交換時は、必ず指定の
部品を使用して下さい。

【分解図】 A B C D

・ねじ類で特に表示のないものは+を示す

①の部品及び部品コード、品名のない部品は在庫しません。

